รายการอ้างอิง

โกวิทย์ วัลลภาพันธ์, "การเพิ่มผลผลิตของโรงงานอุตสาหกรรมอาหารกระป๋องขนาดเล็กในประเทศไทย", วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหการ, จุฬาลงกรณ์มหาวิทยาลัย, กรุงเทพมหานคร, 2522.

สมยศ นาวีการ และ ผุสดี รุมาคม, "การบริหารธุรกิจ", คณะพาณิชยศาสตร์และการบัญชี, มหาวิทยาลัยธรรมศาสตร์, กรุงเทพมหานคร, 2522.

สมนึก วิสุทธิแพทย์, "การปรับปรุงแผนการผลิตของโรงงานผลิตกระป๋องขนาดเล็กในประเทศไทย, วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหการ, จุฬาลงกรณ์มหาวิทยาลัย, กรุงเทพมหานคร, 2528.

เจริญ สุนทรวาณิชย์, "การวางแผนการผลิตและพัสดุคงคลังสำหรับโรงงานกระดาษเหนียว", วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหกรรม, จุฬาลงกรณ์มหาวิทยาลัย, 2529.

สมชาย พัวจินดาเนตร, "การออกแบบระบบข้อสนเทศทางการผลิตสำหรับโรงงานเม็ดพลาสติกพีวีซี", วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหการ, จุฬาลงกรณ์มหาวิทยาลัย, 2529.

บุญเกียรติ ชีวะตระกูลกิจ , "การปรับปรุงการบริหารการผลิตของอุตสาหกรรมอัดปอและผลิตภัณฑ์มันสำปะหลังในภาคตะวันออกเฉียงเหนือ", วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหกรรม, จุฬาลงกรณ์มหาวิทยาลัย , 2529.

พงษ์เทพ ฐิติศักดิ์สกุล, "ระบบสารสนเทศเพื่อการบริหารงานผลิตในโรงย้อมผ้าและกรอด้าย", วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหกรรม, จุฬาลงกรณ์มหาวิทยาลัย, 2529.

นิภพ เล้าประจง, "ระบบควบคุมการผลิต", บริษัทเอเชียเพรสจำกัด, พิมพ์ครั้งที่ 2, กรุงเทพมหานคร , 2531.

กิ่งกนก พิยานุคูณ, สุนทรี จรูญ และรวีวัลย์ กิยโยพนากุล, "การบัญชีต้นทุน", คณะพาณิชย์ศาสตร์และการบัญชี, มหาวิทยาลัยธรรมศาสตร์, กรุงเทพมหานคร, 2534.

ชัยรัตน์ ตรีรัสสพานิช, "ระบบการบริหารการผลิตเพื่อการควบคุมการสูญเสียในโรงงานผลิตแผ่นโฟมอีวีเอ", วิทยานิพนธ์ระดับปริญญาโท ภาควิชาวิศวกรรมอุตสาหกรรม, จุฬาลงกรณ์มหาวิทยาลัย, 2534.

ภาคผนวก

ภาคผนวกที่ 1

ตัวอย่างชุดโปรแกรมการจัดทำงบประมาณ

```
** Main Menu **
set safety off
set decimal to 5
set esca off
set talk off
set confirm off
set clock on
set date dmy
set dele on
set proc to prog01
set proc to general
public mp,servity
public array mthnm(12)
declar mthnm(12)
mmth = 'january   febuary   march     april     may       june
july      august    ;
september november  december  '
for i=1 to 12
    mthnm(i)= substr(mmth,(i*10)-9,10)
endfor
  clear
  * box frame *
  @0,0,2,79   box
  @1,1 fill to 1,78 color gb+/n,n/r
  set colo to w+/
  @0,24  say 'Accounting System for Management'
  set colo to
```

```
************ define menu ***************
** submenu of setup menu **
define popup mpop1 from 2,0
define bar 1 of mpop1 prompt '\<Initial file '
define bar 2 of mpop1 prompt '\<Re-index file'
define bar 3 of mpop1 prompt '\<Goto mainmenu'
on selection popup mpop1 do menu2 with popup(),bar()
** submenu of transaction menu **
define popup  mpop2 from 2,7
define bar  1 of mpop2 prompt '\<A.Standard sale per unit      '
define bar  2 of mpop2 prompt '\<B.Standard raw material cost  '
define bar  3 of mpop2 prompt '\<C.Sales budget                '
define bar  4 of mpop2 prompt '\<D.Sale expense budget         '
define bar  5 of mpop2 prompt '\<E.Manage expense budget       '
define bar  6 of mpop2 prompt '\<F.Non operate expense budget  '
define bar  7 of mpop2 prompt '\<G.Cash budget                 '
define bar  8 of mpop2 prompt '\<H.Production                  '
define bar  9 of mpop2 prompt '\<I.Direct raw material cost    '
define bar 10 of mpop2 prompt '\<J.Purchase raw material budget'
define bar 11 of mpop2 prompt '\<K.Direct labour  cost         '
define bar 12 of mpop2 prompt '\<L.Factory overhead budget     '
define bar 13 of mpop2 prompt '\<M.Factory overhead cost       '
define bar 14 of mpop2 prompt '\<N.Direct labour accured       '
define bar 15 of mpop2 prompt '\<O.Promissory note             '
define bar 16 of mpop2 prompt '\<P.Other accured & Div. & P m/c'
define bar 17 of mpop2 prompt '\<Q.Begining of budget period   '
define bar 18 of mpop2 prompt '\<R.Work in process             '
define bar 19 of mpop2 prompt '\<S.Prepaid insurance           '
define bar 20 of mpop2 prompt '\<T.Goto mainmenu               '
on selection popup mpop2 do menu2 with popup(),bar()
```

```
** submenu of process menu **
define popup mpop3 from 2,30
define bar 1 of mpop3 prompt '\<Process........'
define bar 2 of mpop3 prompt '\<View...........'
define bar 3 of mpop3 prompt '\<Print..........'
define bar 4 of mpop3 prompt '\<Goto mainmenu..'
on selection popup mpop3 do menu2 with popup(),bar()
** submenu of exit menu **
define popup mpop4 from 2,67
define bar 1 of mpop4 prompt '\<Quit     '
define bar 2 of mpop4 prompt '\<Continue'
on selection popup mpop4 do menu2 with popup(),bar()
** main menu **
define menu mainmenu
define pad setup    of mainmenu prompt '\<Setup'             at 1,4
define pad trans    of mainmenu prompt '\<Transaction'       at 1,17
define pad output   of mainmenu prompt '\<Output statement' at 1,41
define pad end_prog of mainmenu prompt '\<Exit'              at 1,69
** sub menu of transaction menu **
define popup  spop1 from 3,37
define bar 1 of spop1 prompt '\<Add..... '
define bar 2 of spop1 prompt '\<Edit.....'
define bar 3 of spop1 prompt '\<Delete...'
define bar 4 of spop1 prompt '\<Inquiry..'
define bar 5 of spop1 prompt '\<Print....'
define bar 6 of spop1 prompt '\<Exit.....'
on selection popup spop1 do menu3 with mbar,bar()
```

```
** submenu of process menu **
define popup spop2 from 3,45
define bar 1  of spop2 prompt '\<A.Cost budget          '
define bar 2  of spop2 prompt '\<B.Profit budget        '
define bar 3  of spop2 prompt '\<C.Direct labour budget '
define bar 4  of spop2 prompt '\<D.Raw material budget  '
define bar 5  of spop2 prompt '\<E.Direct expense budget'
define bar 6  of spop2 prompt '\<F.Standard cost/size   '
define bar 7  of spop2 prompt '\<G.Cash flow statement  '
define bar 8  of spop2 prompt '\<H.Cash expense of D.mat'
define bar 9  of spop2 prompt '\<I.End of budget period '
define bar 10 of spop2 prompt '\<J.Cost production      '
define bar 11 of spop2 prompt '\<K.Foh cost             '
define bar 12 of spop2 prompt '\<L.Direct labour cost   '
define bar 13 of spop2 prompt '\<M.Exit                 '
on selection popup spop2 do menu4 with mbar,bar()
```

```
    ************** main program *****************
do while .t.
   on selection pad setup    of mainmenu activate popup mpop1
   on selection pad trans    of mainmenu activate popup mpop2
   on selection pad output   of mainmenu activate popup mpop3
   on selection pad end_prog of mainmenu activate popup mpop4
   activate menu mainmenu
   if lastkey() = 27
      exit
   endif
enddo
set proc to
deactivate menu
deactivate popup all
set talk on
clear
return
procedure menu2
parameter mpopup,mbar
  do case
     case mpopup = 'MPOP1'
          if mbar = 3
             deactivate popup all
             return
          endif
          do prog001 with mbar
```

```
      case mpopup = 'MPOP2'
           if mbar = 20
              deactivate popup all
              return
           endif
           activate popup spop1
      case mpopup = 'MPOP3'
           if mbar = 4
              deactivate popup all
              return
           endif
           activate popup spop2
      case mpopup = 'MPOP4'
           if mbar = 1
              close all
              quit
           endif
           deactivate popup all
  endcase
return
procedure menu3
parameter mbar1,mbar2
    if mbar2 = 6
       deactivate popup spop1
    else
       do case
          case mbar1 = 1
               do prog101 with mbar2
          case mbar1 = 2
               do prog102 with mbar2
```

```
case mbar1 = 3
     do prog103 with mbar2
case mbar1 = 4
     do prog104 with mbar2
case mbar1 = 5
     do prog105 with mbar2
case mbar1 = 6
     do prog106 with mbar2
case mbar1 = 7
     do prog107 with mbar2
case mbar1 = 8
     do prog108 with mbar2
case mbar1 = 9
     do prog109 with mbar2
case mbar1 = 10
     do prog110 with mbar2
case mbar1 = 11
     do prog111 with mbar2
case mbar1 = 12
     do prog112 with mbar2
case mbar1 = 13
     do prog113 with mbar2
case mbar1 = 14
     do prog114 with mbar2
case mbar1 = 15
     do prog115 with mbar2
case mbar1 = 16
     do prog116 with mbar2
case mbar1 = 17
     do prog117 with mbar2
```

```
            case mbar1 = 18
                 do prog118 with mbar2
            case mbar1 = 19
                 do prog119 with mbar2
         endcase
      endif
      show popup mpop2
return
procedure menu4
parameter mbar1,mbar2
      if mbar2 = 13
         deactivate popup spop2
      else
         do case
            case mbar2 =1
                 do prog201  with mbar1
            case mbar2 = 2
                 do prog202  with mbar1
            case mbar2 = 3
                 do prog203  with mbar1
            case mbar2 = 4
                 do prog204  with mbar1
            case mbar2 = 5
                 do prog205  with mbar1
            case mbar2 = 6
                 do prog206  with mbar1
            case mbar2 = 7
                 do prog207  with mbar1
            case mbar2 = 8
                 do prog208  with mbar1
```

```
            case mbar2 = 9
                 do prog209  with mbar1
            case mbar2 = 10
                 do prog210  with mbar1
            case mbar2 = 11
                 do prog211  with mbar1
            case mbar2 = 12
                 do prog212  with mbar1
        endcase
    endif
    show popup mpop3
return
```

```
***************** standard sale per unit ******************
para transcd    && transaction code
set proc to prog101
set proc to general
hide popup all
define window window_1 from 8,18 to 16,61
define window window_11  from 7,45 to 22,74 color ,,i,i,i
use product index iprod01
@23,5 say 'Esc : Cancel'
@5,12 say '* * S t a n d a r d  S a l e  p e r  u n i t * *'
   do case
      case transcd = 1    && entry
           do entry_1
      case transcd = 2    && edit
           do edit_1
      case transcd = 3    && delete
           do dele_1
      case transcd = 4    && inqury only 1 record
           do inq_1
      case transcd = 5    && print
           do prn_1
   endcase
use
release window window_1
release window window_11
set proc to
@3,0 clear to 24,79
return
```

```
** entry routine **
Proc entry_1
    activate window window_1
    @0,6     say  '     * * *  E N T R Y  * * *'
    @2,6     say  'Production Code        Price/unit'
*                    999-xxxxxx             999.999
    do while .t.
       * initial variable *
       untbath = 0
       prod1 = 0
       prod2 = space(6)
       @4,9      get  prod1     pict '999'
       @4,12     say  '-'
       @4,13     get  prod2     pict '@!'
       @4,31     get  untbath   pict '999.999'
       read
       if lastkey() = 27
          exit
       endif
       prod3 = str(prod1,3)
       find &prod3&prod2
       if found() .and. price_unit >0
          @6,4  say "Can't Duplicate record ... any key"
          key = inkey(1)
          @ 6,1  clear to 6,43
          loop
       endif
       if .not. found()
          appen blank
       endif
```

```
        repla  Prodcd1    with str(prod1,3)
        repla  Prodcd2    with prod2
        repla  Price_unit with untbath
     enddo
     deactivate window window_1
return
Proc edit_1
     activate window window_1
     @0,11    say  '* * *  E D I T  * * *'
     @2,11    say  '  Production  Code   '
*                        999-xxxxxx
     do while .t.
        * initial variable *
        prod1 = 0
        prod2 = space(6)
        @4,13 clear to 4,43
        @4,16    get  prod1     pict '999'
        @4,19    say  '-'
        @4,20    get  prod2     pict '@!'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        find &prod3&prod2
```

```
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           key = inkey(1)
           @ 6,1  clear to 6,43
           loop
        endif
        set filt to prodcd1 >= prod3 .and. prodcd2 >= prod2
        go top
        brow field prodcd = '   '+prodcd1+'-'+prodcd2 , price_unit :10
        set filt to
     enddo
   deactivate window window_1
return
** delete routine **
Proc dele_1
    activate window window_1
    @0,6     say  '    * * *  D E L E T E  * * *'
    @2,6     say  'Production Code        Price/unit'
*                    999-xxxxxx             999.999
    do while .t.
       * initial variable *
       prod1 = 0
       prod2 = space(6)
       untbath = 0
       @4,1 clear to 6,43
       @4,9     get  prod1     pict '999'
       @4,12    say  '-'
       @4,13    get  prod2     pict '@!'
       read
```

```
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k=prod3+prod2
        seek k
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           key = inkey(1)
           @ 6,1  clear to 6,43
           loop
        endif
        untbath = price_unit
        @4,31    say  untbath   pict '999.999'
        @6,11    say  'Confirm : '
        @6,23    prompt 'Yes'
        @6,30    prompt 'No'
        menu to choice
        if choice = 1
           dele
        endif
     enddo
     deactivate window window_1
return
** Inquiry **
Proc inq_1
     activate window window_1
     @0,8    say  '* * *  I N Q U I R Y  * * *'
     @2,8    say  '     Production  Code      '
*                        999-xxxxxx
```

```
      do while .t.
         * initial variable *
         prod1 = 0
         prod2 = space(6)
         @4,13 clear to 4,43
         @4,17    get  prod1     pict '999'
         @4,20    say  '-'
         @4,21    get  prod2     pict '@!'
         read
         if lastkey() = 27
            exit
         endif
         prod3 = str(prod1,3)
         k=prod3+prod2
         seek k
         if .not. found()
            go top
            brow field prodcd = '   '+prodcd1+'-'+prodcd2 ,price_unit
         else
            set filt to prodcd1 >= prod3 .and. prodcd2 >= prod2
            go top
            brow field prodcd = '   '+prodcd1+'-'+prodcd2 ,price_unit
            set filt to
         endif
      enddo
   deactivate window window_1
return
Proc prn_1
      activate window window_1
      do while .t.
```

```
@0,10  say  '* * *  P R I N T  * * *'
@2,10  say  '    Production Code      '
@4,4   say  'From                To'
*                'From   999-xxxxxx   To   999-xxxxxx '
* initial variable *
prod1 = 0
prod2 = space(6)
prod11= 0
prod12= space(6)
@4,11 clear to 4,21
@4,29 clear to 4,43
@4,11    get  prod1     pict '999'
@4,14    say  '-'
@4,15    get  prod2     pict '@!'
@4,29    get  prod11    pict '999'
@4,32    say  '-'
@4,33    get  prod12    pict '@!'
read
if lastkey() = 27
   exit
endif
do case
   case empty(prod1) .and. empty(prod2)
        go top
        x1 = prodcd1
        set filt to val(prodcd1) >= val(x1)  .and. price_unit<>0
   case empty(prod1)
        set filt to val(prodcd1) <= prod11 .and. prodcd2 <= prod12 ;
        .and. price_unit<>0
   case empty(prod2)
```

```
            set filt to val(prodcd1) >= prod1 .and. prodcd2 >= prod2 ;
            .and. price_unit<>0 .
         other
            set filt to prodcd1 >= str(prod1,3) .and. prodcd2 >= prod2 ;
           .and. prodcd1 <= str(prod11,3) .and. prodcd2 <= prod12 .and.
            price_unit<>0
      endcase
      go top
      if eof()
         @6,5  say "Record does not exist ... any key"
         key = inkey(0)
         @ 6,1  clear to 6,43
         if empty(prod1) .or. empty(prod2)
            set filt to
         endif
         loop
      endif
      ext = .f.
      do while .t.
         @6,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+
         chr(217)+' Esc : cancel'
         key = inkey(0)
         if lastkey() = 13
            do prn_12
         endif
         exit
      enddo
      set filt to
      @6,1 clear to 6,43
   enddo
```

```
     deactivate window window_1
return
Proc prn_12
    set devic to print
    do while .not. eof()
       if _plineno = 1
          @_plineno,1     say 'Date :'+dtoc(date())
          @_plineno,24    say 'STANDARD SALE OF PRICE PER UNIT'
          @_plineno,65    say 'Page :'+str(_pageno,5)
          @_plineno+2,28  say '======================'
          @_plineno+3,28  say '  Size       Price/pice'
          @_plineno+4,28  say '======================'
*                              999-999999    999.999
          _plineno = 6
       endif
       @_plineno,28  say prodcd1+'-'+prodcd2
       @_plineno,42  say price_unit
       _plineno=_plineno+1
       if _plineno > 80
          _plineno = 1
          _pageno = _pageno+1
       endif
       skip
    enddo
    eject
set devic to screen
return
```

```
***************** standard raw material cost ********************
para transcd    && transaction code
set proc to prog102
set proc to general
hide popup all
define window window_2 from 6,19 to 19,62
define window window_22  from 11,16 to 21,63 color ,,i,i,i
define window window_23  from 9,2 to 21,77 color ,,i,i,i
use product index iprod01
@23,5 say 'Esc : Cancel'
@5,19 say '*  *  Standard  Raw  material  cost  *  *'
   do case
      case transcd = 1    && entry
           do entry_2
      case transcd = 2    && edit
           do edit_2
      case transcd = 3    && delete
           do dele_2
      case transcd = 4    && inqury only 1 record
           do inq_2
      case transcd = 5    && print
           do prn_2
   endcase
use
release window window_2
release window window_22
release window window_23
set proc to
@3,0 clear to 24,79
return
```

```
** entry routine **
Proc entry_2
*              a         * * *  E n t r y  * * *          a
*              a      Production code :   999-xxxxxx      a
*              a      Weight          :   999.99          a
*              a      Asbestos        :   9.99999         a
*              a      Resin           :   9.99999         a
*              a      Metanol         :   9.99999         a
*              a      Rubber          :   9.99999         a
*              a      Sulpher         :   9.99999         a
*              a      Toluene         :   9.99999         a
    activate window window_2
    @0,9     say  '* * *  E N T R Y  * * *'
    do while .t.
       @2,6 clear to 11,43
       @2,6     say  'Production code : '
       @3,6     say  'Weight          : '
       @4,6     say  'Asbestos        : '
       @5,6     say  'Resin           : '
       @6,6     say  'Metanol         : '
       @7,6     say  'Rubber          : '
       @8,6     say  'Sulpher         : '
       @9,6     say  'Toluene         : '
       * initial variable *
       prod1 = 0
       prod2 = space(6)
       wei   = 0
       asb   = 0
       res   = 0
       met   = 0
```

```
rub   = 0
sul   = 0
tol   = 0
@2,26    get  prod1     pict '999'
@2,29    say  '-'
@2,30    get  prod2     pict '@!'
read
if lastkey() = 27
   exit
endif
prod3 = str(prod1,3)
k = prod3+prod2
seek k
if found() .and. asbestos > 0
   @11,4  say "Can't Duplicate record ... any key"
   wait ''
   @ 11,1  clear to 11,43
   loop
endif
@3,26   get  wei   pict '999.999'
@4,26   get  asb   pict '9.99999'
@5,26   get  res   pict '9.99999'
@6,26   get  met   pict '9.99999'
@7,26   get  rub   pict '9.99999'
@8,26   get  sul   pict '9.99999'
@9,26   get  tol   pict '9.99999'
read
if lastkey() = 27
   loop
endif
```

```
        if .not. found()
           appen blank
        endif
        repla  Prodcd1    with str(prod1,3)
        repla  Prodcd2    with prod2
        repla  Weight     with wei
        repla  Asbestos   with asb
        repla  Resin      with res
        repla  Metanol    with met
        repla  Rubber     with rub
        repla  Sulpher    with sul
        repla  Toluene    with tol
    enddo
    deactivate window window_2
return
Proc edit_2
     activate window window_2
     @0,11    say  '* * *  E D I T  * * *'
     @3,11    say  '  Production  Code'
*                      999-xxxxxx
     do while .t.
        * initial variable *
        prod1 = 0
        prod2 = space(6)
        @5,13 clear to 5,43
        @5,16    get  prod1     pict '999'
        @5,19    say  '-'
        @5,20    get  prod2     pict '@!'
        read
```

```
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k=prod3+prof2
        seek k
        if .not. found()
           @11,5  say "Record does not exist ... any key"
           wait ''
           @ 11,1  clear to 11,43
           loop
        endif
        set filt to prodcd1 >= prod3 .and. prodcd2 >= prod2
        go top
        brow field prodcd = '    '+prodcd1+'-'+prodcd2 , weight ,asbestos ,;
             resin ,metanol ,rubber ,sulpher ,toluene
        set filt to
     enddo
   deactivate window window_2
return
** delete routine **
Proc dele_2
    activate window window_2
    @0,6     say  '    * * *  D E L E T E  * * *'
    @2,6     say  'Production Code        Price/unit'
*                    999-xxxxxx            999.999
    do while .t.
```

```
@2,6 clear to 11,43
@2,6     say  'Production code : '
@3,6     say  'Weight          : '
@4,6     say  'Asbestos        : '
@5,6     say  'Resin           : '
@6,6     say  'Metanol         : '
@7,6     say  'Rubber          : '
@8,6     say  'Sulpher         : '
@9,6     say  'Toluene         : '
* initial variable *
prod1 = 0
prod2 = space(6)
@2,26    get  prod1     pict '999'
@2,29    say  '-'
@2,30    get  prod2     pict '@!'
read
if lastkey() = 27
   exit
endif
prod3 = str(prod1,3)
k=prod3+prod2
seek k
if .not. found()
   @11,5  say "Record does not exist ... any key"
   wait ''
   @11,1  clear to 11,43
   loop
endif
```

```
        @3,26   say  weight   pict '999.999'
        @4,26   say  asbestos pict '9:99999'
        @5,26   say  resin    pict '9.99999'
        @6,26   say  metanol  pict '9.99999'
        @7,26   say  rubber   pict '9.99999'
        @8,26   say  sulpher  pict '9.99999'
        @9,26   say  toluene  pict '9.99999'
        @11,11    say  'Confirm : '
        @11,23    prompt 'Yes'
        @11,30    prompt 'No'
        menu to choice
        if choice = 1
           dele
        endif
    enddo
    deactivate window window_2
return
** Inquiry **
Proc inq_2
     activate window window_2
     @0,8    say  '* * *  I N Q U I R Y  * * *'
     @3,8    say  '     Production  Code      '
*                          999-xxxxxx
     do while .t.
        * initial variable *
        prod1 = 0
        prod2 = space(6)
```

```
        @5,13 clear to 5,43
        @5,16    get  prod1     pict '999'
        @5,19    say  '-'
        @5,20    get  prod2     pict '@!'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k=prod3+prod2
        seek k
        if .not. found()
           go top
           brow field prodcd = '    '+prodcd1+'-'+prodcd2 , weight  ,;
           asbestos  ,resin  ,metanol  , rubber  ,sulpher  ,toluene
        else
            set filt to prodcd1 >= prod3 .and. prodcd2 >= prod2
            go top
            brow field prodcd = '    '+prodcd1+'-'+prodcd2 ,weight ,;
            asbestos ,resin ,metanol ,rubber ,sulpher ,toluene
           set filt to
        endif
     enddo
   deactivate window window_2
return
```

```
Proc prn_2
     activate window window_2
     @0,10  say  '* * *  P R I N T  * * *'
     @2,10  say  '    Production  Code      '
     @4,4   say  'From                 To'
*                'From   999-xxxxxx   To   999-xxxxxx '
     do while .t.
        * initial variable *
        prod1 = 0
        prod2 = space(6)
        prod11= 0
        prod12= space(6)
        @4,11 clear to 4,21
        @4,29 clear to 4,43
        @4,11    get  prod1     pict '999'
        @4,14    say  '-'
        @4,15    get  prod2     pict '@!'
        @4,29    get  prod11    pict '999'
        @4,32    say  '-'
        @4,33    get  prod12    pict '@!'
        read
        if lastkey() = 27
           exit
        endif
        do case
           case empty(prod1) .and. empty(prod2)
                go top
                x1 = prodcd1
                set filt to val(prodcd1) >= val(x1) .and. weight<>0
```

```
   case empty(prod1)
        set filt to val(prodcd1) <= prod11 .and. prodcd2 <= prod12 ;
        .and. weight<>0
   case empty(prod2)
        set filt to val(prodcd1) >= prod1 .and. prodcd2 >= prod2 ;
        .and. weight<>0
   other
        set filt to prodcd1 >= str(prod1,3) .and. prodcd2 >= prod2 ;
       .and. prodcd1 <= str(prod11,3) .and. prodcd2 <= prod12 .and.
       weight<>0
endcase
go top
if eof()
   @11,5  say "Record does not exist ... any key"
   key = inkey(0)
   @ 11,1  clear to 11,43
   if empty(prod1) .or. empty(prod2)
      set filt to
   endif
   loop
endif
ext = .f.
do while .t.
```

```
            @11,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+
            chr(217)+' Esc : cancel'
            key = inkey(0)
            if lastkey() = 13
               do prn_21
            endif
            exit
         enddo
         set filt to
         @11,1 clear to 11,43
      enddo
      deactivate window window_2
return
Proc prn_21
set devic to print
    do while .not. eof()
       if _plineno = 1
          @_plineno,1     say 'Date :'+dtoc(date())
          @_plineno,27    say 'STANDARD RAW MATERIAL COST'
          @_plineno,65    say 'Page :'+str(_pageno,5)
          @_plineno+2,6   say '==================================
          ================================'
          @_plineno+3,6   say '  Size      Weight Asbestos   Resin
          Metanol  Rubber Sulpher Toluene'
          @_plineno+4,6   say '==================================
          ================================'
*                             999-999999 999.999  9.9999   9.9999
          9.9999  9.9999  9.9999  9.9999
          _plineno = 6
       endif
```

```
        @_plineno,6  say prodcd1+'-'+prodcd2
        @_plineno,17 say trans(weight,'999.999')
        @_plineno,26 say trans(asbestos,'9.9999')
        @_plineno,35 say trans(resin,'9.9999')
        @_plineno,43 say trans(metanol,'9.9999')
        @_plineno,51 say trans(rubber,'9.9999')
        @_plineno,59 say trans(sulpher,'9.9999')
        @_plineno,67 say trans(toluene,'9.9999')
        _plineno=_plineno+1
        if _plineno > 80
           _plineno = 1
           _pageno = _pageno+1
        endif
        skip
    enddo
    eject
set devic to screen
return
```

```
***************** Sale budget ********************
para transcd    && transaction code.
set proc to prog103
set proc to general
hide popup all
define window window_3 from 8,18 to 16,61
define window window_33  from 7,24 to 22,75 color ,,i,i,i
sele a
use product index iprod01
sele b
use budg01  index ibudg01
@23,5  say 'Esc : Cancel'
@5,23  say '* * S a l e  b u d g e t * *'
@6,23  say '          Monthly : '
month = 0
@6,43  get month  pict '99'
read
m = str(month,2)
accode = '01'
if lastkey() <> 27
   do case
      case transcd = 1    && entry
           do entry_3
      case transcd = 2    && edit
           do edit_3
      case transcd = 3    && delete
           do dele_3
      case transcd = 4    && inqury only 1 record
           do inq_3
      case transcd = 5    && print
```

```
            do prn_3
      endcase
   endif
   sele a
   use
   sele b
   use
   release window window_3
   release window window_33
   @3,0 clear to 24,79
   return
   ** entry routine **
   Proc entry_3
       activate window window_3
       @0,6     say  '     * * *  E N T R Y  * * *'
       @2,6     say  'Production Code           Amount '
*                      999-xxxxxx               9,999
       do while .t.
          * initial variable *
          amt = 0
          prod1 = 0
          prod2 = space(6)
          @4,9     get  prod1     pict '999'
          @4,12    say  '-'
          @4,13    get  prod2     pict '@!'
          @4,33    get  amt       pict '9,999'
          read
          if lastkey() = 27
             exit
          endif
```

```
        prod3 = str(prod1,3)
        sele a
        k=prod3+prod2
        seek k
        if .not. found()
           @6,11  say "Not found ... any key"
           wait ''
           @ 6,1  clear to 6,43
           loop
        endif
        sele b
        k = accode+m+prod3+prod2
        seek k
        if found()
           @6,4  say "Can't Duplicate record ... any key"
           wait ''
           @ 6,1  clear to 6,43
           loop
        endif
        sele b
        appen blank
        repla  Acc_code  with accode
        repla  Monthly   with month
        repla  Prodcd1   with prod3
        repla  Prodcd2   with prod2
        repla  Amount    with amt
        repla  Total     with amt*a->Price_unit
    enddo
    deactivate window window_3
return
```

```
Proc edit_3
     sele b
     set rela to prodcd1+prodcd2 into product
     activate window window_3
     @0,11    say  '* * *  E D I T  * * *'
     @2,11    say  '  Production  Code   '
*                        999-xxxxxx
     do while .t.
        * initial variable *
        prod1 = 0
        prod2 = space(6)
        @4,13 clear to 4,43
        @4,16    get  prod1     pict '999'
        @4,19    say  '-'
        @4,20    get  prod2     pict '@!'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k = accode+m+prod3+prod2
        sele b
        seek k
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           wait ''
           @ 6,1  clear to 6,43
           loop
        endif
```

```
        set filt to monthly = month .and. acc_code = accode .and.
        val(prodcd1) >= prod1
        go top
        brow field prodcd = '   '+prodcd1+'-'+prodcd2 , amount , ;
             a->price_unit ,total = amount*a->price_unit
        set filt to
      enddo
   deactivate window window_3
   set rela to
return
** delete routine **
Proc dele_3
    activate window window_3
    @0,6     say  '    * * *  D E L E T E  * * *'
    @2,6     say  'Production Code          Amount '
*                    999-xxxxxx             9,999
    do while .t.
       @4,1 clear to 6,43
       * initial variable *
       amt = 0
       prod1 = 0
       prod2 = space(6)
       @4,9     get  prod1     pict '999'
       @4,12    say  '-'
       @4,13    get  prod2     pict '@!'
       read
       if lastkey() = 27
          exit
       endif
```

```
        prod3 = str(prod1,3)
sele b
        k = accode+m+prod3+prod2
        seek k
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           key = inkey(0)
           @ 6,1  clear to 6,43
           loop
        endif
        @4,33  say Amount  pict '9,999'
        @6,11    say  'Confirm : '
        @6,23    prompt 'Yes'
        @6,30    prompt 'No'
        menu to choice
        if choice = 1
           dele
        endif
    enddo
    deactivate window window_3
return
** Inquiry **
Proc inq_3
     sele b
     set rela to prodcd1+prodcd2 into product
     activate window window_3
     @0,8    say  '* * *  I N Q U I R Y  * * *'
     @2,8    say  '     Production  Code      '
*                          999-xxxxxx
     do while .t.
```

```
   * initial variable *
   prod1 = 0
   prod2 = space(6)
   @4,13 clear to 4,43
   @4,17    get  prod1     pict '999'
   @4,20    say  '-'
   @4,21    get  prod2     pict '@!'
   read
   if lastkey() = 27
      exit
   endif
   prod3 = str(prod1,3)
   k = accode+m+prod3+prod2
   sele b
   seek k
   if .not. found()
      set filt to monthly = month .and. acc_code = accode
      go top
      brow field prodcd = '   '+prodcd1+'-'+prodcd2 , amount , ;
                 a->price_unit ,total
   else
      set filt to monthly = month .and. acc_code = accode .and.
      val(prodcd1) >= prod1
      go top
      brow field prodcd = '   '+prodcd1+'-'+prodcd2 , amount  , ;
                 a->price_unit ,total
   endif
   set filt to
enddo
```

```
      deactivate window window_3
      set rela to
return
Proc prn_3
      activate window window_3
      do while .t.
         sele b
         set filt to monthly = month .and. acc_code = accode
         go top
         if eof()
            @6,5  say "Record does not exist ... any key"
            key = inkey(0)
            exit
         endif
         @6,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+chr(217)
         +' Esc : cancel'
         key = inkey(0)
         if lastkey() = 13
               do prn_31
         endif
         exit
      enddo
      set filt to
      deactivate window window_3
return
```

```
Proc prn_31
set devic to print
    sele b
    set rela to prodcd1+prodcd2 into product
    store 0 to gtot,gamt
    do while .not. eof()
       if _plineno = 1
          @_plineno,1     say 'Date :'+dtoc(date())
          @_plineno,33    say 'BUDGET OF SALE'
          @_plineno,65    say 'Page :'+str(_pageno,5)
          l1 = len(rtrim(mthnm(month)))
          @_plineno+1,(80-8-l1)/2    say 'Month : '+upper(mthnm(month))
          @_plineno+2,17  say '========================================='
          @_plineno+3,17  say '  Size      Amount  Price/pice      Total '
          @_plineno+4,17  say '========================================='
*                              999-999999  99,999   999.999  9,999,999.99
          _plineno = 6
       endif
       @_plineno,17  say prodcd1+'-'+prodcd2
       @_plineno,29  say trans(amount,'99,999')
       @_plineno,42  say trans(a->price_unit,'999.999')
       @_plineno,51  say trans(total,'9,999,999.99')
       gtot = gtot + total
       gamt = gamt + amount
       _plineno=_plineno+1
```

```
        if _plineno > 80
           _plineno = 1
           _pageno = _pageno+1
        endif
        skip
     enddo
     @_plineno,17    say '============================================='
     @_plineno+1,17  say '       Total  '
     @_plineno+1,27  say trans(gamt,'9,999,999.99')
     @_plineno+1,50  say trans(gtot,'99,999,999.99')
     @_plineno+2,17  say '============================================='
     set rela to
     eject
set devic to screen
return
```

```
***************** sale expense budget ******************
para transcd    && transaction code .
set proc to prog104
set proc to general
hide popup all
define window window_4 from 8,19 to 16,62
define window window_41  from 8,23 to 21,75 color ,,i,i,i
use budg02 index ibudg02
@23,5  say 'Esc : Cancel'
@5,24  say '*  *  Sale expense budget  *  *'
@6,24  say '          Monthly :'
month = 0
@6,43  get month  pict '99'
read
accode = '03'
m = str(month,2)
if lastkey() <> 27
   do case
      case transcd = 1    && entry
           do entry_4
      case transcd = 2    && edit
           do edit_4
      case transcd = 3    && delete
           do dele_4
      case transcd = 4    && inqury only 1 record
           do inq_4
      case transcd = 5    && print
           do prn_4
   endcase
endif
```

```
use
release window window_4
release window window_41
set proc to
@3,0 clear to 24,79
return
** entry routine **
Proc entry_4
*              @          * * *  E n t r y  * * *          @
*              @Journal code:   999                        @
*              @Item        :   xxxxxxxxxxxxxxxxxxxxxxxxx @
*              @Amount      :   9,999,999.99              @
    activate window window_4
    @0,9     say  '* * *  E N T R Y  * * *'
    do while .t.
       @2,0 clear to 6,43
       @2,0     say  'Journal code: '
       @3,0     say  'Item        : '
       @4,0     say  'Amount      : '
       * initial variable *
       prodcd= 0
       desc  = space(25)
       amt   = 0
       @2,16    get  prodcd    pict '999'
       read
       if lastkey() = 27
          exit
       endif
       prod3 = str(prodcd,3)
       k = accode+m+prod3
```

```
      seek k
      if found()
         @6,4  say "Can't Duplicate record ... any key"
         key=inkey(0)
         @ 6,1  clear to 6,43
         loop
      endif
      do case
         case prodcd = 5
              desc = upper('Depreciation of m/c&tool')
              @3,16   say  desc
         case prodcd = 6
              desc = upper('Depreciation of building')
              @3,16   say  desc
         other
              @3,16   get  desc  pict '@!'
      endcase
      @4,16   get  amt   pict '9,999,999.99'
      read
      if lastkey() = 27
         loop
      endif
      appen blank
      repla  Monthly    with month
      repla  Item       with desc
      repla  Acc_code   with accode
      repla  Jour_cd    with prod3
      repla  Amount     with amt
enddo
```

```
    deactivate window window_4
return
Proc edit_4
     activate window window_4
     @0,11    say  '* * *  E D I T  * * *'
     @3,11    say  '     Journal Code'
*                              999
     do while .t.
        * initial variable *
        prod1 = 0
        @5,13 clear to 5,43
        @5,21    get  prod1     pict '999'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k = accode+m+prod3
        seek k
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           key=inkey(0)
           @ 6,1  clear to 6,43
           loop
        endif
```

```
        set filt to monthly = month .and. acc_code = accode .and.
        jour_cd >= prod3
        go top
        brow field j='    '+jour_cd , item , amount
        set filt to
   enddo
   deactivate window window_4
return
** delete routine **
Proc dele_4
    activate window window_4
    @0,6     say  '    * * *  D E L E T E  * * *'
    do while .t.
       @2,0 clear to 6,43
       @2,0     say  'Journal code: '
       @3,0     say  'Item        : '
       @4,0     say  'Amount      : '
       * initial variable *
       prod1 = 0
       @2,16    get  prod1     pict '999'
       read
       if lastkey() = 27
          exit
       endif
       prod3 = str(prod1,3)
       k = accode+m+prod3
       seek k
```

```
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           key=inkey(0)
           @6,1  clear to 6,43
           loop
        endif
        @3,16   say  item
        @4,16   say  amount   pict '9,999,999.99'
        @6,11    say  'Confirm : '
        @6,23    prompt 'Yes'
        @6,30    prompt 'No'
        menu to choice
        if choice = 1
           dele
        endif
     enddo
     deactivate window window_4
return
** Inquiry **
Proc inq_4
     activate window window_4
     @0,8    say  '* * *  I N Q U I R Y  * * *'
     @3,11    say  '     Journal Code'
*                            999
     do while .t.
        * initial variable *
        prod1 = 0
        @5,21 clear to 5,43
        @5,21    get  prod1     pict '999'
        read
```

```
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k = accode+m+prod3
        seek k
        if .not. found()
           go top
           set filt to monthly = month .and. acc_code = accode
           go top
           brow field j='    '+jour_cd ,item , amount
           set filt to
        else
           set filt to monthly = month .and. acc_code = accode .and.
           jour_cd >= prod3
           go top
           brow field j='    '+jour_cd ,item , amount
           set filt to
        endif
     enddo
   deactivate window window_4
return
Proc prn_4
     activate window window_4
     do while .t.
        set filt to monthly = month .and. acc_code = accode
        go top
```

```
            if eof()
               @6,5  say "Record does not exist ... any key"
               key = inkey(0)
               exit
            endif
            @6,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+chr(217)
            +' Esc : cancel'
            key = inkey(0)
            if lastkey() = 13
                 do prn_41
            endif
            exit
         enddo
         set filt to
         deactivate window window_4
return
Proc prn_41
set devic to print
    gamt = 0
    do while .not. eof()
       if _plineno = 1
          @_plineno,1     say 'Date :'+dtoc(date())
          @_plineno,30    say 'SALE EXPENSE BUDGET'
          @_plineno,65    say 'Page :'+str(_pageno,5)
          l1 = len(rtrim(mthnm(month)))
```

```
            @_plineno+1,(80-8-11)/2    say 'Month : '+upper(mthnm(month))
            @_plineno+2,17  say '======================================='
            @_plineno+3,17  say '        Item                   Amount(bath)'
            @_plineno+4,17  say '======================================='
*                               xxxxxxxxxxxxxxxxxxxxxxxx    9,999,999.99
            _plineno = 6
         endif
         @_plineno,17  say item
         @_plineno,51  say trans(amount,'9,999,999.99')
         gamt = gamt+amount
         _plineno=_plineno+1
         if _plineno > 80
            _plineno = 1
            _pageno = _pageno+1
         endif
         skip
      enddo
      @_plineno,17     say '=========================================='
      @_plineno+1,17   say '           Total    '
      @_plineno+1,50   say trans(gamt,'99,999,999.99')
      @_plineno+2,17   say '=========================================='
      eject
set devic to screen
return
```

```
****************** management expense budget ********************
para transcd    && transaction code
set proc to prog105
set proc to general
hide popup all
define window window_5 from 8,19 to 16,62
define window window_51  from 8,23 to 21,75 color ,,i,i,i
use budg02 index ibudg02
@23,5  say 'Esc : Cancel'
@5,20  say '*  *  Management  expense  budget  *  *'
@6,20  say '                Monthly :'
month = 0
@6,44  get month  pict '99'
read
accode = '04'
m = str(month,2)
if lastkey() <> 27
   do case
      case transcd = 1    && entry
           do entry_5
      case transcd = 2    && edit
           do edit_5
      case transcd = 3    && delete
           do dele_5
      case transcd = 4    && inqury only 1 record
           do inq_5
      case transcd = 5    && print
           do prn_5
   endcase
endif
```

```
use
release window window_5
release window window_51
set proc to
@3,0 clear to 24,79
return
** entry routine **
Proc entry_5
*              @          * * *  E n t r y  * * *          @
*              @Journal code:   999                        @
*              @Item        :   xxxxxxxxxxxxxxxxxxxxxxxxx @
*              @Amount      :   9,999,999.99              @
    activate window window_5
    @0,9     say  '* * *  E N T R Y  * * *'
    do while .t.
       @2,0 clear to 6,43
       @2,0     say  'Journal code: '
       @3,0     say  'Item        : '
       @4,0     say  'Amount      : '
       * initial variable *
       prodcd= 0
       desc  = space(25)
       amt   = 0
       @2,16    get  prodcd    pict '999'
       read
       if lastkey() = 27
          exit
       endif
       prod3 = str(prodcd,3)
       k = accode+m+prod3
```

```
seek k
if found()
   @6,4  say "Can't Duplicate record ... any key"
   key = inkey(0)
   @ 6,1  clear to 6,43
   loop
endif
do case
   case prodcd = 5
        desc = upper('Depreciation of m/c&tool')
        @3,16   say  desc  pict '@!'
   case prodcd = 6
        desc = upper('Depreciation of building')
        @3,16   say  desc  pict '@!'
   case prodcd = 7
        desc = upper('Insurance')
        @3,16   say  desc  pict '@!'
   other
        @3,16   get  desc  pict '@!'
endcase
@4,16   get  amt   pict '9,999,999.99'
read
if lastkey() = 27
   loop
endif
appen blank
```

```
        repla  Monthly    with month
        repla  Item       with desc
        repla  Acc_code   with accode
        repla  Jour_cd    with prod3
        repla  Amount     with amt
    enddo
    deactivate window window_5
return
Proc edit_5
     activate window window_5
     @0,11    say  '* * *  E D I T  * * *'
     @3,11    say  '     Journal Code'
*                              999
     do while .t.
        * initial variable *
        prod1 = 0
        @5,13 clear to 5,43
        @5,21    get  prod1     pict '999'
        read
        if lastkey() = 27
           exit
        endif
        prcd3 = str(prod1,3)
        k = accode+m+prod3
        seek k
```

```
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           wait ''
           @ 6,1  clear to 6,43
           loop
        endif
        set filt to monthly = month .and. acc_code = accode .and.
        jour_cd >= prod3
        go top
        brow field j='    '+jour_cd , item , amount
        set filt to
     enddo
   deactivate window window_5
return
** delete routine **
Proc dele_5
    activate window window_5
    @0,6     say  '    * * *  D E L E T E  * * *'
    do while .t.
       @2,0 clear to 6,43
       @2,0     say  'Journal code: '
       @3,0     say  'Item        : '
       @4,0     say  'Amount      : '
       * initial variable *
       prod1 = 0
       @2,16    get  prod1     pict '999'
       read
       if lastkey() = 27
          exit
       endif
```

```
        prod3 = str(prod1,3)
        k = accode+m+prod3
        seek k
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           wait ''
           @6,1  clear to 6,43
           loop
        endif
        @3,16   say  item
        @4,16   say  amount   pict '9,999,999.99'
        @6,11    say  'Confirm : '
        @6,23    prompt 'Yes'
        @6,30    prompt 'No'
        menu to choice
        if choice = 1
           dele
        endif
     enddo
     deactivate window window_5
return
** Inquiry **
Proc inq_5
     activate window window_5
     @0,8    say  '* * *  I N Q U I R Y  * * *'
     @3,11    say  '     Journal Code'
*                          999
     do while .t.
```

```
        * initial variable *
        prod1 = 0
        @5,21 clear to 5,43
        @5,21    get  prod1     pict '999'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k = accode+m+prod3
        seek k
        if .not. found()
           go top
           set filt to monthly = month .and. acc_code = accode
           go top
           brow field j='    '+jour_cd ,item , amount
           set filt to
        else
           set filt to monthly = month .and. acc_code = accode .and.
           jour_cd >= prod3
           go top
           brow field j='    '+jour_cd :12  ,item , amount
           set filt to
        endif
     enddo
   deactivate window window_5
return
```

```
Proc prn_5
     activate window window_5
     do while .t.
        set filt to monthly = month .and. acc_code = accode
        go top
        if eof()
           @6,5  say "Record does not exist ... any key"
           key = inkey(0)
           exit
        endif
        @6,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+chr(217)+
        ' Esc : cancel'
        key = inkey(0)
        if lastkey() = 13
              do prn_51
        endif
        exit
     enddo
     set filt to
     deactivate window window_5
return
Proc prn_51
set devic to print
    gamt = 0
    do while .not. eof()
       if _plineno = 1
          @_plineno,1     say 'Date :'+dtoc(date())
          @_plineno,27    say 'MANAGEMENT EXPENSE BUDGET'
          @_plineno,65    say 'Page :'+str(_pageno,5)
          l1 = len(rtrim(mthnm(month)))
```

```
            @_plineno+1,(80-8-11)/2    say 'Month : '+upper(mthnm(month))
            @_plineno+2,17  say '========================================='
            @_plineno+3,17  say '        Item                      Amount(bath)'
            @_plineno+4,17  say '========================================='
*                                xxxxxxxxxxxxxxxxxxxxxxx      9,999,999.99
            _plineno = 6
         endif
         @_plineno,17  say item
         @_plineno,51  say trans(amount,'9,999,999.99')
         gamt = gamt+amount
         _plineno=_plineno+1
         if _plineno > 80
            _plineno = 1
            _pageno = _pageno+1
         endif
         skip
      enddo
      @_plineno,17     say '============================================='
      @_plineno+1,17   say '           Total     '
      @_plineno+1,50   say trans(gamt,'99,999,999.99')
      @_plineno+2,17   say '============================================='
      eject
set devic to screen
return
```

```
***************** non-operation expense budget ********************
para transcd    && transaction code .
set proc to prog106
set proc to general
hide popup all
define window window_6 from 8,19 to 16,62
define window window_61  from 8,23 to 21,75 color ,,i,i,i
use budg02 index ibudg02
@23,5  say 'Esc : Cancel'
@5,20  say '*  *  Non operation expense budget  *  *'
@6,20  say '              Monthly :'
month = 0
@6,44  get month  pict '99'
read
accode = '05'
m = str(month,2)
if lastkey() <> 27
   do case
      case transcd = 1    && entry
           do entry_6
      case transcd = 2    && edit
           do edit_6
      case transcd = 3    && delete
           do dele_6
      case transcd = 4    && inqury only 1 record
           do inq_6
      case transcd = 5    && print
           do prn_6
   endcase
endif
```

```
use
release window window_6
release window window_61
set proc to
@3,0 clear to 24,79
return
** entry routine **
Proc entry_6
*              @          * * *  E n t r y  * * *          @
*              @Journal code:   999                        @
*              @Item        :   xxxxxxxxxxxxxxxxxxxxxxxxx @
*              @Amount      :   9,999,999.99              @
    activate window window_6
    @0,9     say  '* * *  E N T R Y  * * *'
    do while .t.
       @2,0 clear to 6,43
       @2,0     say  'Journal code: '
       @3,0     say  'Item        : '
       @4,0     say  'Amount      : '
       * initial variable *
       prodcd= 0
       desc  = space(25)
       amt   = 0
       @2,16    get  prodcd    pict '999'
       read
       if lastkey() = 27
          exit
       endif
```

```
        prod3 = str(prodcd,3)
        k = accode+m+prod3
        seek k
        if found()
           @6,4  say "Can't Duplicate record ... any key"
           wait ''
           @ 6,1  clear to 6,43
           loop
        endif
        @3,16   get  desc  pict '@!'
        @4,16   get  amt   pict '9,999,999.99'
        read
        if lastkey() = 27
           loop
        endif
        appen blank
        repla  Monthly    with month
        repla  Item       with desc
        repla  Acc_code   with accode
        repla  Jour_cd    with prod3
        repla  Amount     with amt
    enddo
    deactivate window window_6
return
Proc edit_6
     activate window window_6
     @0,11    say  '* * *  E D I T  * * *'
     @3,11    say  '     Journal Code'
*                          999
     do while .t.
```

```
        * initial variable *
        prod1 = 0
        @5,13 clear to 5,43
        @5,21    get  prod1     pict '999'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k = accode+m+prod3
        seek k
        if .not. found()
           @6,5  say "Record does not exist ... any key"
           wait ''
           @ 6,1  clear to 6,43
           loop
        endif
        set filt to monthly = month .and. acc_code = accode .and. jour_cd
        >= prod3
        go top
        brow field j='    '+jour_cd :12  ,item , amount
        set filt to
     enddo
   deactivate window window_6
return
```

```
** delete routine **
Proc dele_6
    activate window window_6
    @0,6     say  '    * * *  D E L E T E  * * *'
    do while .t.
       @2,0 clear to 6,43
       @2,0      say  'Journal code: '
       @3,0      say  'Item        : '
       @4,0      say  'Amount      : '
       * initial variable *
       prod1 = 0
       @2,16     get  prod1     pict '999'
       read
       if lastkey() = 27
          exit
       endif
       prod3 = str(prod1,3)
       k = accode+m+prod3
       seek k
       if .not. found()
          @6,5  say "Record does not exist ... any key"
          wait ''
          @6,1  clear to 6,43
          loop
       endif
       @3,16   say  item
       @4,16   say  amount   pict '9,999,999.99'
       @6,11    say  'Confirm : '
       @6,23    prompt 'Yes'
       @6,30    prompt 'No'
```

```
        menu to choice
        if choice = 1
           dele
        endif
     enddo
     deactivate window window_6
return
** Inquiry **
Proc inq_6
     activate window window_6
     @0,8    say  '* * *  I N Q U I R Y  * * *'
     @3,11    say  '     Journal Code'
*                              999
     do while .t.
        * initial variable *
        prod1 = 0
        @5,21 clear to 5,43
        @5,21    get  prod1     pict '999'
        read
        if lastkey() = 27
           exit
        endif
        prod3 = str(prod1,3)
        k = accode+m+prod3
        seek k
        if .not. found()
           go top
           set filt to monthly = month .and. acc_code = accode
           go top
           brow field j='    '+jour_cd ,item , amount
```

```
            set filt to
         else
            set filt to monthly = month .and. acc_code = accode .and.
           jour_cd >= prod3
            go top
            brow field j='    '+jour_cd ,item , amount
            set filt to
         endif
      enddo
   deactivate window window_6
return
Proc prn_6
      activate window window_6
      do while .t.
         set filt to monthly = month .and. acc_code = accode
         go top
         if eof()
            @6,5  say "Record does not exist ... any key"
            key = inkey(0)
            exit
         endif
         @6,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+chr(217)+
         ' Esc : cancel'
         key = inkey(0)
         if lastkey() = 13
               do prn_61
         endif
         exit
      enddo
```

```
     set filt to
     deactivate window window_6
return
Proc prn_61
set devic to print
    gamt = 0
    do while .not. eof()
       if _plineno = 1
          @_plineno,1     say 'Date :'+dtoc(date())
          @_plineno,26    say 'NON-OPERATING EXPENSE BUDGET'
          @_plineno,65    say 'Page :'+str(_pageno,5)
          l1 = len(rtrim(mthnm(month)))
          @_plineno+1,(80-8-l1)/2    say 'Month : '+upper(mthnm(month))
          @_plineno+2,17  say '========================================='
          @_plineno+3,17  say '        Item                    Amount(bath)'
          @_plineno+4,17  say '========================================='
*                              xxxxxxxxxxxxxxxxxxxxxxxx      9,999,999.99
          _plineno = 6
       endif
       @_plineno,17  say item
       @_plineno,51  say trans(amount,'9,999,999.99')
       gamt = gamt+amount
       _plineno=_plineno+1
       if _plineno > 80
          _plineno = 1
          _pageno = _pageno+1
       endif
       skip
    enddo
```

```
    @_plineno,17     say '============================================='
    @_plineno+1,17   say '          · Total     '
    @_plineno+1,50   say trans(gamt,'99,999,999.99')
    @_plineno+2,17   say '============================================='
    eject
set devic to screen
return
```

```
****************** cash budget ********************
para transcd    && transaction code
set proc to prog107
set proc to general
hide popup all
define window window_7 from 8,19 to 16,62
define window window_71  from 8,12 to 21,67 color ,,i,i,i
sele a
use budg01 index ibudg01
sele b
use budg02 index ibudg02
@23,5  say 'Esc : Cancel'
@5,28  say '*  *  Cash budget  *  *'
accode = '06'
   do case
      case transcd = 1    && entry
           do entry_7
      case transcd = 2    && edit
           do edit_7
      case transcd = 3    && delete
           do dele_7
      case transcd = 4    && inqury only 1 record
           do inq_7
      case transcd = 5    && print
           do prn_7
   endcase
sele a
use
sele b
use
```

```
release window window_7
release window window_71
set proc to
@3,0 clear to 24,79
return
** entry routine **
Proc entry_7
*              ú        * * *  E n t r y  * * *          ú
*              ú                                         ú
*              ú      Customer          :   999,999.99   ú
*              ú      Percent Sale      :   99.99        ú
   @6,20    say  '              Monthly :'
   do while .t.
   month = 0
   @6,44  get month  pict '99'
   read
   if lastkey() = 27
      exit
   endif
   m = str(month,2)
   activate window window_7
   @0,9     say  '* * *  E N T R Y  * * *'
      @2,0 clear to 6,43
      @2,6     say  'Sale budget     : '
      @3,6     say  'Customer        : '
      @4,6     say  'Percent         : '
      * initial variable *
      cust  = 0
      pcent  = 0
```

```
sele a
tamt = 0
sum total to tamt for acc_code = '01' .and. monthly = month
@2,26   say   tamt    pict '9,999,999.99'
if month = 1
   @3,26    get  cust     pict '9,999,999.99'
else
   sele b
   k = accode+m+'  1'
   seek k
   if found()
      @3,26    say  amount   pict  '9,999,999.99'
   else
      @3,26    say  cust     pict  '9,999,999.99'
   endif
endif
@4,26    get  pcent  pict '999.99'
read
if lastkey() = 27
   deactivate window window_7
   loop
endif
if pcent = 0
   deactivate window window_7
   loop
endif
sele b
k = accode+m+'  2'
seek k
```

```
if found()
   @6,4  say "Can't Duplicate record ... any key"
   key =inkey(0)
   deactivate window window_7
   loop
endif
if tamt = 0
   @6,1  say  "Can't entries because of no saleing data"
   key = inkey(0)
   deactivate window window_7
   loop
endif
sele b
if month = 1
   appen blank
   repla  Monthly    with month
   repla  Item       with upper('customer')
   repla  Acc_code   with accode
   repla  Jour_cd    with '  1'
   repla  Amount     with cust
endif
appen blank
repla  Monthly    with month
repla  Item       with 'SALE ('+trans(pcent,'999.99')+'%)'
repla  Acc_code   with accode
repla  Jour_cd    with '  2'
repla  Percent    with pcent
repla  Amount     with pcent*tamt/100
if month = 12
else
```

```
            appen blank
            repla  Monthly    with month+1
            repla  Item       with upper('customer')
            repla  Acc_code   with accode
            repla  Jour_cd    with '  1'
            repla  Amount     with tamt-(pcent*tamt/100)
         endif
         deactivate window window_7
      enddo
return
Proc edit_7
*              @           * * *  E d i t  * * *          @
*              @                                         @
*              @      Sale budget     :  9,999,999.99    @
*              @      Customer        :  9,999,999.99    @
*              @      Percent         :  999.99          @
*              @      Sale            :  9,999,999.99    @
      @6,20    say  '              Monthly :'
      do while .t.
      month = 0
      @6,44  get month  pict '99' valid(month >0 .and. month <13) ;
                                  error 'Range between 1-12'
      read
      if lastkey() = 27
         exit
      endif
      m = str(month,2)
      activate window window_7
```

```
@0,11    say  '* * *  E D I T  * * *'
   @2,0 clear to 6,43
   @2,6      say  'Sale budget      : '
   @3,6      say  'Customer         : '
   @4,6      say  'Percent          : '
   @5,6      say  'Sale             : '
   * initial variable *
   cust  = 0
   pcent  = 0
   sele a
   tamt = 0
   sum total to tamt for acc_code = '01' .and. monthly = month
   sele b
   k = accode+m+'  1'
   seek k
   if .not. found()
      @6,5  say "Record does not exist ... any key"
      key =inkey(0)
      deactivate window window_7
      loop
   endif
   cust = amount
   k = accode+m+'  2'
   seek k
   if .not. found()
      @6,5  say "Record does not exist ... any key"
      key =inkey(0)
      deactivate window window_7
      loop
   endif
```

```
pcent = percent
@2,26   say   tamt  pict '9,999,999.99'
@5,26   say  pcent*tamt/100  pict '9,999,999.99'
if month = 1
   @3,26    get  cust     pict '9,999,999.99'
else
   @3,26    say  cust     pict  '9,999,999.99'
endif
@4,26   get  pcent  pict '999.99'
read
if lastkey() = 27
   deactivate window window_7
   loop
endif
sele b
repla  Item       with 'SALE ('+trans(pcent,'999.99')+'%)'
repla  Percent    with pcent
repla  Amount     with pcent*tamt/100
if month = 1
   k = accode+m+'  1'
   seek k
   repla  Amount     with cust
endif
if month = 12
else
   k = accode+str(month+1,2)+'  1'
   seek k
   repla  Amount     with tamt-(pcent*tamt/100)
endif
```

```
        deactivate window window_7
    enddo
return
** delete routine **
Proc dele_7
    @6,20    say  '                Monthly :'
    do while .t.
       month = 0
       @6,44  get month  pict '99'
       read
       if lastkey() = 27
          exit
       endif
       m = str(month,2)
       activate window window_7
       @0,6     say  '    * * *  D E L E T E  * * *'
       @2,0 clear to 6,43
       @2,6     say  'Sale budget     : '
       @3,6     say  'Customer        : '
       @4,6     say  'Percent         : '
       @5,6     say  'Sale            : '
       * initial variable *
       cust  = 0
       sele a
       tamt = 0
       sum total to tamt for acc_code = '01' .and. monthly = month
       sele b
       k = accode+m+'  1'
       seek k
```

```
if found()
   cust = amount
endif
k = accode+m+'  2'
seek k
if .not. found()
   @6,5  say "Record does not exist ... any key"
   key =inkey(0)
   deactivate window window_7
   loop
endif
@2,26   say  tamt           pict  '9,999,999.99'
@3,26   say  cust           pict  '9,999,999.99'
@4,26   say  percent        pict  '999.99'
@5,26   say  percent*tamt/100  pict '9,999,999.99'
@6,11    say  'Confirm : '
@6,23    prompt 'Yes'
@6,30    prompt 'No'
menu to choice
if choice = 1
   k = accode+str(month,2)+'  1'
   seek k
   if found()
      dele
   endif
   k = accode+str(month,2)+'  2'
   seek k
   if found()
      dele
   endif
```

```
            k = accode+str(month+1,2)+'  1'
            seek k
            if found()
               dele
            endif
         endif
         deactivate window window_7
      enddo
return
** Inquiry **
Proc inq_7
      @6,20    say  '              Monthly :'
      do while .t.
         month = 0
         @6,44  get month  pict '99'
         read
         if lastkey() = 27
            exit
         endif
         m = str(month,2)
         do Addtemp
         sele c
         go top
         brow field  monthly   ,cust , percent  ,cash ,total
         use
         erase temp1.dbf
         erase temp.dbf
      enddo
return
```

```
Proc prn_7
    @6,20    say  '              Monthly :'
    do while .t.
       month = 0
       @6,44  get month  pict '99' valid(month >0 .and. month <13) ;
                                    error 'Range between 1-12'
       read
       if lastkey() = 27
          exit
       endif
       m = str(month,2)
       do Addtemp
       activate window window_7
       sele c
       go top
       if eof()
          @6,5  say "Record does not exist ... any key"
          key = inkey(0)
          deactivate window window_7
          use
          loop
       endif
       @6,1  say 'Turn on printer  Ready : '+chr(17)+chr(196)+chr(217)+
       ' Esc : cancel'
       key = inkey(0)
       if lastkey() = 13
            do prn_71
       endif
```

```
        deactivate window window_7
        use
    enddo
return
Proc prn_71
set devic to print
        if _plineno = 1
           @_plineno,1     say 'Date :'+dtoc(date())
           @_plineno,34    say 'CASH BUDGET'
           @_plineno,65    say 'Page :'+str(_pageno,5)
           l1 = len(rtrim(mthnm(month)))
           @_plineno+1,(80-8-l1)/2    say 'Month : '+upper(mthnm(month))
           @_plineno+2,17  say '========================================='
           @_plineno+3,17  say '        Item                    Amount(bath)'
           @_plineno+4,17  say '========================================='
*                             xxxxxxxxxxxxxxxxxxxxxxxx      9,999,999.99
           _plineno = 6
        endif
        @_plineno,17    say 'CUSTOMER'
        @_plineno,51    say trans(cust,'9,999,999.99')
        @_plineno+1,17  say 'SALE  ('+trans(percent,'999.99')+'%)'
        @_plineno+1,51  say trans(cash,'9,999,999.99')
        @_plineno+2,51  say '------------'
        @_plineno+3,50  say trans(total,'99,999,999.99')
        @_plineno+4,50  say '============='
    eject
set devic to screen
return
```

ภาคผนวกที่ 2

ความน่าจะเป็น

ความน่าจะเป็นที่จะขายผลิตภัณฑ์ได้มีดังนี้

size	PROB.
150-110	0.113468
160-110	0.023306
170-110	0.007087
180-125	0.107903
180-130	0.003522
184-127	0.022676
190-130	0.015936
190-132	0.008087
200-130NG	0.007261
200-130	0.091770
200-140	0.041308
212-140	0.020697
215-145	0.014675
215-150	0.012175
225-150	0.081313
240-150	0.006065
240-160	0.053049

size	PROB.
260-170	0.057919
275-175	0.016458
275-180	0.025437
300-190	0.063332
325-190	0.013914
325-200	0.008827
325-210	0.047722
350-195	0.005304
350-220	0.024437
380-220	0.048918
380-240	0.006696
410-250	0.021850
410-260	0.013414
430-252	0.015458
total	1

ประวัติผู้เขียน

นายสมศักดิ์ สิทธิชาญคุณะ เกิดวันที่ 3 เมษายน 2508 ที่จังหวัดกรุงเทพมหานคร สำเร็จการศึกษาหลักสูตรปริญญาวิทยาศาสตรบัณฑิต ภาควิชาคณิตศาสตร์ คณะวิทยาศาสตร์ สถาบันเทคโนโลยีพระจอมเกล้า ธนบุรี ในปีการศึกษา 2531 และสำเร็จการศึกษาหลักสูตรปริญญาบริหารธุรกิจบัณฑิต สาขาวิชาการบัญชี มหาวิทยาลัยรามคำแหงในปีการศึกษา 2532 จากนั้นได้เข้าศึกษาต่อในระดับปริญญามหาบัณฑิต ภาควิชาวิศวกรรมอุตสาหการ คณะวิศวกรรมศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ในปีการศึกษา 2534