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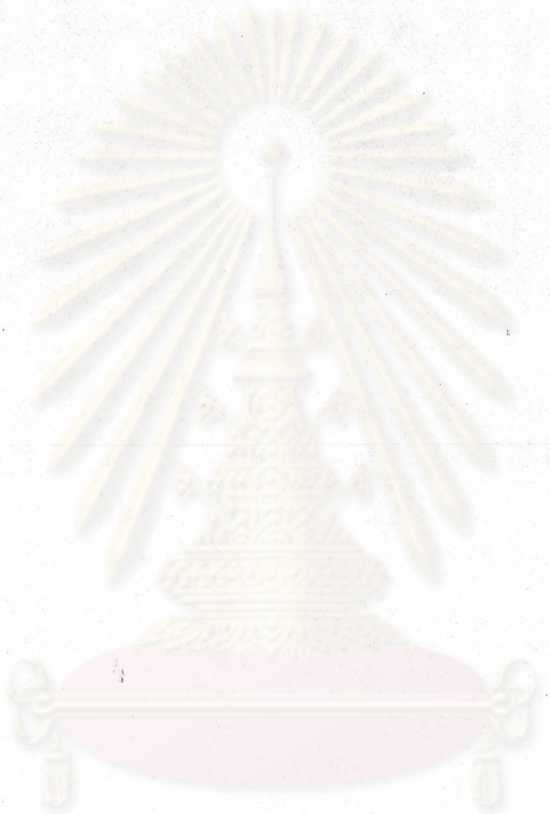

ภาคผนวก

โปรแกรมภาษาฟอร์แทรน 4 (FORTRAN IV) ที่ใช้ในการวิจัย

```
//ZAFOxxxx  JOB CLASS=N,MSGLEVEL=(1,1),TYPRUN = HOLD
//          EXEC FORTVCLG, TIME=100,GOREGN=2000K
//FORT.SYSIN DD *
CFILE 6 N(054) NEW(REPL) LRECL(123)
CSYS REG = MAX
CLOAD WATFIV
COPT LIST
C ***************************************************************************
C *   THIS PROGRAM FOR GENERATE MULTIVARIATED NORMAL RANDOM NUMBER *
C *        AND COMPUTE MULTIPLE CORRELATION AND ADJUSTED VALUE     *
C *         BY WHERRY'S METHOD AND BY OLKIN & PRATY'S METHOD       *
C *         Copyright (c) 1989  by  Mr. WANCHAI NANTA-NGIRN        *
C *              ID. C040371  Dep. OF EDUCATIONAL RESERCH          *
C *                      CHULALONGKORN UNIVERSITY                  *
C ***************************************************************************
C    *  M    = NUMBER OF VARIABLE
C    *  N    = NUMBER OF CASE
C    *  SX   = SUMSQUARE OF PRODUCT
C    *  AI   = INVERSE METRIX
C    *  BB   = BETA
C    *  VAR  = MULTINORMAL VARIABLE
C    *  XB   = MEAN
C    *  SD   = STANDARD DEVIATION
C    *  R    = CORRELATION METRIX
C    *  XX   = SSCP
C    *  CORX = X' X
C    *  COYX = X' Y
C    *  RM   = MULTIPLE R-SQUARE
```

```
C     *  RW    = MULTIPLE R-SQUARE WHICH ADJUSTED BY WHERRY'S METHOD
C     *  RO    = MULTIPLE R-SQUARE WHICH ADJUSTED BY OLKIN & PRATT'S METHOD
C     *  RR    = INITIAL MULTIPLE CORRELATION
C     *  RPO   = MULTILE CORRELATION
C     *  NP    = SAMPLE SIZE
C     *  RO    = CORRELATION BETWEEN IV
C ***************************************************************************
C ****                      MAIN  PROGRAM                                ****
C ***************************************************************************
C
      DIMENSION XB(10), SD(10), R(10,10), RHO(10,10)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
      DATA XBRU, XBRW, XBRO, VRU, VRW, VRO/6*0.0/
      RR=0.170
      M=6
      RPO=0.20
      RO=0.50
      NP=M*10
      RSIG=.18
      LOOP=1000
      N=1000
      AL=1.
      BH=N
      IX=973253
      KK=0
      MM=M-1
```

```
      RPPO = RPO - .01
        RPPP = RPO + .01
        WRITE(6,21)
   21 FORMAT(/120(1H=)/5X,'POPULATION CORRELATION MATRIX'/)
           DO 6 I=1,M
            RHO(I,M)=RPO
            RHO(I,I)= 1.0
            DO 6 J=1, MM
            IF(I.EQ.J) GOTO 6
            IF(I.EQ.M) GOTO 3
            RHO(I,J)=RO
            RHO(J,I)=RO
            GOTO 6
    3       RHO(I,J)=RPO
    6       CONTINUE
            DO 2 I=1,M
            XB(I)=0.0
    2       SD(I)=1.0
            RS=RHO(1,M)**2
         DO  29 I=1,M
   29 WRITE(6,28)(RHO(I,J),J=1,M)
   28 FORMAT(5X, 9(F5.2,1X)/)
        WRITE(6,81)
   81 FORMAT(120(1H=))
  332       RR=RR+.005
            IF(RR.GT.RPO) GOTO 77
            DO 5 I=1,M
            R(I,M)=RR
            R(I,I)1.0
            DO 5 J=1,MM
```

```
      IF (I.EQ.J) GOTO 5
      IF(I.EQ.M) GOTO 4
      R(I,J)=0.0
      R(J,I)=R(I,J)
      GOTO 5
4     R(I,J)=RR
5     CONTINUE
      CALL MNORM(IX,KK,M,N,XB,SD,R)
      CALL SSX (M,N,MM)
      CALL INVS(RM.RW,RO,M,N,MM)
      ROM=SQRT(RM)
   IF(ROM.LE.RPPO.OR.ROM.GE.RPPP) GOTO 332
   WRITE(6,8)R(1,M),ROM
 8 FORMAT(5X,'RIN          = ',F6.3/5X,'MULTIPLE R',7X, '=',F6.3)
   N=NP
   PM=M-1
   PN=N
   AM=PM/2.
   BM=(PN-PM-1)/2.
   RHOBAR=1-((BM/(AM+BM))*(1-RS))
   VRHO=2*RS*(((1-RS)**2)/(AM+BM +.5))
   WRITE(6,900)M,N,LOOP
900 FORMAT(5X,'NO.VARS  =',I2,2X,'SAMPLE SIZE = ',I5,  2X,'LOOP = ',I4)
   WRITE(6,120)RHOBAR, VRHO
120 FORMAT(5X,'E(RSQUARE)   = ', F6.3/5X,'E(VAR OF RSQUARE) = ',F7.3)
   DO 63 I=1, LOOP
      DO 60 K=1,N
            CALL UNF(IX,AL,BH,U)
      DO 60 J=1,M
60    VARS(K,J)=VAR(U,J)
```

```
      CALL SSX1(M,N,MM)
      CALL INVS1(RMS,RW,RO,M,N,MM)
      RMU(I)=RMS
      RUU(I)=SQRT(ABS(RMS))
      RMW(I)=RW
63    RMO(I)=RO
      DO 64 I=1, LOOP
      XBRU=XBRU+RMU(I)
      XBRW=XBRW+RMW(I)
      XBRO=XBRO+RMO(I)
      VRU=VRU+RMU(I)**2
      VRW=VRW+RMW(I)**2
64    VRO=VRO+RMO(I)**2
   XBRU=XBRU/LOOP
   XBRW=XBRW/LOOP
   XBRO=XBRO/LOOP
   VRU=VRU/LOOP-(XBRU**2)
   VRW=VRW/LOOP-(XBRW**2)
   VRO=VRO/LOOP-(XBRO**2)
   IF(VRO,GT.VRW) GOTO 85
   FTEST=VRW/VRO
   GOTO 86
85 FTEST=VRO/VRW
86     CALL FRE(LOOP,RSIG)
         WRITE(6,87)XBRU, VRU
87 FORMAT(5X, 'MEAN OF RSQUARE        = ',F10.5/5X,'VARIANCE OF
  *RSQUARE =',F10.5)
   WRITE(6,88)XBRW, VRW
88 FORMAT(/5X,'MEAN OF WRSQUARE       = ',F10.5/5X,'VARIANCE OF
  *WRSQUARE =',F10.5)
```

```
      WRITE (6,89)XBRO,VRO
   89 FORMAT(/5X,'MEAN OF ORSQUARE       = ',F10.5/5X,'VARIANCE OF
     *ORSQUARE =',F10.5//120(1H=))
  110 WRITE(6,108) FTEST
  108 FORMAT(/5X,'F-TEST=',F9.5,2X,'F-TABLE = 1.08 ,1.11'/120(1H=))
      GOTO 79
   77 WRITE(6,78)
   78 FORMAT(//********** PLEASE ENTER NEW RR **********//)
   79 STOP
      END
```

```
C*****************************************************************
C ****   SUBROUTINE FOR GENERATE MULTINORMAL RANDOM VRAIABLE  *****
      SUBROUTINE MNORM (IX,KK,M,N,XB,SD,R)
      DIMENSION XB(10),SD(10),R(10,10)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
          CALL SETUP(IDK,M,XB,SD,R)
      IF(IDK. EQ. 0) GOTO 8000
      DO 1000 I=1,N
      DO 10 L=1,M
          CALL NORMAL (IX,KK,RN)
      ZV(L)=RN
   10 CONTINUE
      DO 1200 J=1,M
      VAR(I,J)=0.0
      DO 1300 K=1,J
      VAR(I,J)=VAR(I,J)+D(J,K)*ZV(K)
 1300 CONTINUE
      VAR(I,J)=VAR(I,J)+XB(J)
 1200 CONTINUE
 1000 CONTINUE
      GO TO 9000
 8000 WRITE(6,8888)
 8888 FORMAT(10X,'*****CANNOT CONTINUE..YOU MUST INPUT NEW DATA *****//
     *120(1H=)//)
 9000 RETURN
      END
```

```
C ***************************************************************
C *****     SUBROUTINE SETUP TO FIND TRIANGULAR MATRIX       ******
C ***************************************************************
      SUBROUTINE SETUP(IDK,M.XB.SD,R)
      DIMENSION XB(10),SD(10),R(10,10)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
C
C     WE HAVE CORRELATIONS. CONVERT TO VARIANCE COVARIANCE MATRIX
C     AND STORE DUPLICATE MATRIX
C
      DO 200 I=1,M
      DO 200 J=I,M
      R(I,J)=R(I,J)*SD(I)*SD(J)
      R(J,I)=R(I,J)
      D(I,J)=R(I,J)
      D(J,I)=R(J,I)
  200 CONTINUE
C
C     CHECK FOR SINGULARITY BY COMPUTING DETERMINATION.  PIVOTAL
C     CONDENSATION ALGORITHM USED
C     IF THE DETERMINANT IS LESS THAN 0.0001, A ERROR RETURN
C     FOR SINGULARITY IS MADE.
C
      NEXT=2
      IWHAT=1
  252 DO 251 I=NEXT,M
```

```
      OVERD=D(I,IWHAT)/D(IWHAT,IWAHT)
          DO 251 J=NEXT,M
          D(I,J)=D(I,J)-D(IWHAT,J)*OVERD
  251 CONTINUE
          IF (NEXT.GE.M) GOTO 260
          IWHAT=NEXT
          NEXT=NEXT+1
          GO TO 252
  260 DET=1.0
          DO 261 I=1,M
  261 DET=DET * D(I,I)
          DET=ABS(DET)
          IF (DET.LT.0.0001) GO TO 500
C
C       COMPUTE TRIANGULAR FACTORIZATION
C
  300 IF (R(1,1) .LE. 0.0) R(1,1) = 1.0
          ROOT= SQRT(R(1,1))
          DO 301 I=1, M
          D(I,1)=R(I,1)/ROOT
          DO 301 J=2, M
          D (I,J)=0.0
  301 CONTINUE
          DO 310 I=2,M
          SUM=0.0
          KLIMT=I-1
          DO 311 K=1,KLIMT
          SUM=SUM+D(I,K)*D(I.K)
  311 CONTINUE
          DIFF=R(I,I) - SUM
```

```
      IF (DIFF .LE.0.0) GO TO 501
       DIFF=ABS(DIFF)
       D(I,I) = SQRT(DIFF)
       DO 312 J=2,I
       IF (J.EQ.I) GO TO 312
       SUM1=0.0
       KLIMT=J-1
       DO 313 K=1, KLIMT
       SUM1=SUM1+D(I,K)*D(J,K)
  313 CONTINUE
       D(I,J)=(R(I,J) - SUM1)/D(J,J)
  312 CONTINUE
  310 CONTINUE
       IDK=1
       RETURN
  501 WRITE(6,112)DIFF
  112 FORMAT(//120(1H=)//11X,'****DIFF= ',F9.5,' CANNOT  FIND
     *TRIANGULAR MATRIX DIFF<0.0 **** '/)
       GO TO 502
  500 WRITE (6,111)DET
  111 FORMAT(//120(1H=)//9X,'**** DETERMINANT = ',F11.6,' IS LESS THAN
     *0.0001 ****'/)
  502 IDK=0
       RETURN
       END
```

```
C ***************************************************************************
C *****              SUBROUTLINE FOR GENERATE NRN                       *****
C ***************************************************************************
      SUBROUTINE NORMAL (IX,KK,RN)
      PI=3.1415926
      IF(KK .EQ.1) GOTO 10
          CALL RANDU(IX, IY, RNN)
          RONE=RNN
          CALL RANDU(IX, IY, RNN)
          RTWO=RNN
      ZONE=SQRT(-2*ALOG(RONE))*COS(2*PI*RTWO)
      ZTWO=SQRT(-2*ALOG(RONE))*SIN(2*PI*RTWO)
      RN=ZONE
      KK=1
      RETURN
   10 RN=ZTWO
      KK=0
      RETURN
      END
```

```
C ***********************************************************************
C *****              SUBROUTINE FOR SUMSQUARE MATRIX                *****
C ***********************************************************************
      SUBROUTINE SSX(M,N,MM)
      DIMENSION X(10, 2000)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
      DO 30 I=1,M
   30 SX(I)=0.0
      DO 31 I=1,N
      DO 31 J=1,M
   31 SX(J)=SX(J)+VAR(I,J)
      DO 10 J=1,M
      DO 10 K=1,N
   10 X(J,K) = VAR(K,J)
      DO 15 J=1,M
      DO 15 K=1,M
      XX(J,K)=0.0
      COR(J,K)=0.0
      DO 16 I=1,N
   16 XX(J,K) = XX(J,K)+(X(J,I)*VAR(I,K))
   15 CONTINUE
      DO 40 I=1,M
      XM(I)=SX(I)/N
      V(I) = XX(I,I)/N-(XM(I)**2)
   40 SV(I)=SQRT(V(I))
      DO 41 I=1,M
```

```
      DO 41 J=1,M
   41 COR(I,J)=(XX(I,J)/N-XM(I)*XM(J))/SV(I)/SV(J)
      DO 43 I=1,MM
      COYX(I)=COR(I,M)
      DO 43 J=1,MM
   43 CORX(I,J)=COR(I,J)
      RETURN
      END
```

```
C ***********************************************************************
C *****          SUBROUTINE FOR COMPUTE INVERSE MATRIX              *****
C ***********************************************************************
      SUBRUTINE INVS(RM,RW,RO,M,N,MM)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10)
     *COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10), RMU(1000),
     *RMW(1000),
     *RMO(1000), RUU(1000), RWW(1000), ROO(1000), VARS(500,10),SX1(10)
     *XX1(10,10), COR1(10,10), XM1(10), V1(10), SV1(10), COYX1(10),
     *CORX1(10,10), B1(10)
      DO 20 K=1,MM
      CORX(K,K) = -1.0/CORX(K,K)
      DO 5 I=1,MM
      IF (I-K) 3,5,3
    3 CORX(I,K) = -CORX(I,K) * CORX(K,K)
    5 CONTINUE
      DO 10 I = 1,MM
      DO 10 J = 1,MM
      IF ((I-K)*(J-K))
    9 CORX(I,J) = CORX(I,J) - CORX(I,K) * CORX(K,J)
   10 CONTINUE
      DO 20 J=1,MM
      IF (J-K) 18,20,18
   18 CORX(K,J) = -CORX(K,J)*CORX(K,K)
   20 CONTINUE
      DO 25 I=1,MM
      DO 25 J=1,MM
   25 CORX(I,J)= -CORX(I,J)
C ***********************************************************************
```

```
      DO 22 I=1,MM
      SUM=0.0
      DO 23 K=1,MM
      SUM=SUM+CORX(I,K)*COYX(K)
   23 CONTINUE
      B(I)=SUM
   22 CONTINUE
C ***************************************************************************
      C=N
      P=M
      RM=0.0
      DO 26 I=1,MM
   26 RM=RM+COYX(I)*B(I)
      RETURN
      END
```

```
C ***********************************************************************
C *****              SUBROUTINE FOR SUMSQUARE MATRIX                *****
C ***********************************************************************
      SUBROUTINE SSX1 (M,N,MM)
      DIMENSION X(10, 2000)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
      DO 30 I=1,M
   30 SX1(I)=0.0
      DO 31 I=1,N
      DO 31 J=1,M
   31 SX1(J)=SX1(J)+VARS(I,J)
      DO 10 J=1,M
      DO 10 K=1,N
   10 X1(J,K) = VARS(K,J)
      DO 15 J=1,M
      DO 15 K=1,M
      XX1(J,K)=0.0
      COR1(J,K)=0.0
      DO 16 I=1,N
   16 XX1(J,K) = XX1(J,K)+(X1(J,I)*VARS(I,K))
   15 CONTINUE
      DO 40 I=1,M
      XM1(I)=SX1(I)/N
      V1(I) = XX1(I,I)/N-(XM1(I)**2)
   40 SV1(I)=SQRT(V1(I))
      DO 41 I=1,M
```

```
      DO 41 J=1,M
   41 COR1(I,J)=(XX1(I,J)/N-XM1(I)*XM1(J))/SV1(I)/SV1(J)
      DO 43 I=1,MM
      COYX1(I)=COR1(I,M)
      DO 43 J=1,MM
   43 CORX1(I,J)=COR1(I,J)
      RETURN
      END
```

```
C ***********************************************************************
C *****          SUBROUTINE FOR COMPUTE INVERSE MATRIX          *****
C ***********************************************************************
      SUBRUTINE INVS1(RMS,RW,RO,M,N,MM)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
      DO 20 K=1,MM
      CORX1(K,K) = -1.0/CORX1(K,K)
      DO 5 I=1,MM
      IF (I-K) 3,5,3
    3 CORX1(I,K) = -CORX1(I,K) * CORX1(K,K)
    5 CONTINUE
      DO 10 I = 1,MM
      DO 10 J = 1,MM
      IF ((I-K)*(J-K)) 9,10,9
    9 CORX1(I,J) = CORX1(I,J) - CORX1(I,K) * CORX1(K,J)
   10 CONTINUE
      DO 20 J=1,MM
      IF (J-K) 18,20,18
   18 CORX1 (K,J)= - CORX1(K,J) * CORX1 (K,K)
   20 CONTINUE
      DO 25 I=1,MM
      DO 25 J=1,MM
   25 CORX1(I,J)= -CORX1(I,J)
C ***********************************************************************
      DO 22 I=1,MM
      SUM1=0.0
```

```
      DO 23 K=1,MM
      SUM1=SUM1+CORX1(I,K)*COYX1(K)
   23 CONTINUE
      B1(I)=SUM1
   22 CONTINUE
C ***********************************************************************
      C=N
      P=M
      RMS=0.0
      DO 26 I=1,MM
   26 RMS=RMS+COYX1(I)*B1(I)
      PW=(C-1)/(C-P-1)
      RIT=1-RMS
      RIO=(C-3)/(C-P-1)
      RIP=2/(C-P+1)
      RW=1-(PW*RIT)
      RO=1-(RIO*(RIT+(RIP*(RIT**2))))
      RETURN
      END
```

```
C ***************************************************************************
C *****     SUBROUTINE FOR GENERATE TABLE OF RANDOM NUMBER      *****
C ***************************************************************************
      SUBROUTINE UNF(IX,AL,BH,U)
           CALL RANDU (IX,IY,RNN)
           U=AL+(BH-AL)*RNN
      RETURN
      END
C ***************************************************************************
C *****         SUBROUTINE FOR GENERATE RANDOM NUMBER           *****
C ***************************************************************************
      SUBROUTINE RANDU(IX,IY,RNN)
      IY=IX*16807
      IF(IY) 55,56,56
   55 IY=IY+2147483647+1
   56 RNN=IY
      RNN=RNN/2147483647
      IX=IY
      RETURN
      END
```

```
C ***********************************************************************
C *****          SUBROUTINE FOR COMPUTE FREQUENCY                  *****
C ***********************************************************************
      SUBROUTINE FRE(LOOP,RSIG)
      DIMENSION IU(40),FF(40),EE(40),TT(40),IIO(40),FFU(40),FFW(40),
     *IW(40),IO(40),FW(40),FO(40),IIU(40),IIW(40),FFO(40)
      COMMON VAR(2000,10), D(10,10), ZV(10), CORX(10,10), XX(10,10),
     *XM(10),COYX(10), COR(10,10), V(10), SV(10), SX(10), B(10),
     *RMU(1000), RMW(1000),RMO(1000), RUU(1000), RWW(1000), ROO(1000),
     *VARS(500,10), SX1(10),XX1(10,10), COR1(10,10), XM1(10), V1(10),
     *SV1(10), COYX1(10),CORX1(10,10), B1(10)
      DATA CU,CW,CO,CC,CWW,COO/6* -0.955555/
      DATA KU,KW,KO,KK,KWW,KOO/6*1/
      K=LOOP-1
      DO 5 I=1,K
      L=LOOP-I
      DO 5 J=1,L
      IF(RMU(J+1).GE.RMU(J)) GOTO 31
   31 IF(RMW(J+1).GE.RMW(J)) GOTO 32
   32 IF(RMO(J+1).GE.RMO(J)) GOTO 33
   33 IF(RUU(J+1).GE.RUU(J)) GOTO  5
      S=RMU(J+1)
      SW=RMW(J+1)
      SO=RMO(J+1)
      SUU=RUU(J+1)
      RMU(J+1)=RMU(J)
      RMW(J+1)=RMW(J)
      RMO(I+1)=RMO(J)
      RUU(J+1)=RUU(J)
      RMU(J)=S
```

```
      RMW(J)=SW
      RMO(J)=SO
      RUU(J)=SUU
    5 CONTINUE
      WRITE(6,7) RUU(1), RUU(LOOP),RMU(1),RMU(LOOP),RMW(1),RMW(LOOP)
     *RMO(1),RMW(LOOP)
    7 FORMAT(5X,'RUU=',F8.4,2X,F8.4,2X,'RMU',F8.4,2X,F8.4,2X,'RM=',
     *F8.4,2X,F8.4,2X,'RMO =F8.4,2X,F8.4,2X/)
      DO 8 I=1,40
      IU(I)=0
      IW(I)=0
      IO(I)=0
      IIU(I)=0
      IIW(I)=0
    8 IIO(I)=0
      STSMRS=0.0
      DO 20 I=1,LOOP
      IF(RMU(I).GE.RSIG) STSMRS = STSMRS+1
   13 IF(KU.GT.40) GOTO 12
      IF(RMU(I),GT.CU) GOTO 11
      JU(KU)=IU(KU)+1
      GOTO 12
   11 CU=CU+0.050142
      KU=KU+1
      GOTO 13
   12 IF(KW.GT.40) GOTO 15
      IF (RMW(I) .GT. CW) GO TO 14
      IW(KW)=IW(KW)+1
      GO TO 15
   14 CW=CW+0.050142
```

```
      KW=KW+1
      GO TO 12
   15 IF(KO.GT.40) GO TO 36
      IF(RMO(I).GT.CO)GO TO 16
      IO(KO)=IO(KO)+1
      GO TO 36
   16 CO=CO+0.050142
      KO=KO+1
      GO TO 15
   36 IF(KK.GT.40) GO TO 20
      IF(RUU(I).GT.CC)GO TO 38
      IIU(KK)=IIU(KK)+1
      GO TO 20
   38 CC=CC+0.050142
      KK=KK+1
      GO TO 36
   20 CONTINUE
      CCL=LOOP
      ST=0.0
      DO 21 I=1,40
      ST=ST+IU(I)
      FF(I)=IU(I)/CCL
      FW(I)=IW(I)/CCL
      FO(I)=IO(I)/CCL
   21 FFU(I)=IIU(I)/CCL
      E= - 1.00
      T= -.96
      I=1
   22 IF(I.GT.40) GO TO 23
      EE(I)=E
```

```
      TT(I)=T
      E=E+.05
      T=T+.05
      I=I+1
      GOTO 22
   23 WRITE (6,24)
   24 FORMAT (6X,'SUB INT',4X,'FMR',2X,'FWRS',2X,'FWRS',2X,'FORS,'3X,
     *'P(MR)',2X,'P(RS)',2X,'P(WRS)',2X',P(ORS)'/)
      DO 29 I=1,40
   26 WRITE(6,28)EE(I),TT(I),IIU(I),IU(I),IW(I),IO(I),FFU(I),FF(I),
     *FW(I),FO(I)
   28 FORMAT(3X,F5.2,'-',F5.2,2X,I4,2X,I4,2X,I4,2X,I4,3X,F4.2,4X,F4.2,
     *F4.2)
   29 CONTINUE
      WRITE(6,30)ST,RSIG,STSMRS
   30 FORMAT(/5X,'SUM FREQ = ',2X,F5.0/5X,'MRS-SIGNIFICANT =',F4.2,3X,
     *SUM OF MRS-SIGNIGICANT = ',F5.0/)
      RETURN
      END
```

ประวัติผู้เขียน

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