

## O PROGRAMA «PERMUTA»

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& JOB; PERMUTA; 6/1/76;
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,
      NG6, NG7, NG8, M, N
COMMON/T/MI(120), MOI(9), MT(120), II(9), NTC
COMMON/TIS/MNCG(9), MTG(9)
READ(3, 100)NG
IF(NG . GT . 9 . OR . NG . LT . 1)STOP 1
100  FORMAT(10)
      READ(3, 102) (MNCG(J), MTG(J), J = 1, NG)
102  FORMAT(210)
      NTC = 0
      DO 10 J = 1, NG
      IF(MNCG(J) . LT . 1 . OR . MTG(J) . LE . 0 . OR .
        . MTG(J) . GT . 10)STOP 2
      MOI(J) = J
10   NTC = NTC + MNCG(J)
      IF(NTC . GT . 120)STOP 3
      READ(3, 101) (MI(J), J = 1, NTC)
101  FORMAT(120A1)
      GO TO (22, 22, 23, 24, 25, 26, 27, 28, 29), NG
29   NG8 = NG — 8
28   NG7 = NG — 7
27   NG6 = NG — 6
26   NG5 = NG — 5
25   NG4 = NG — 4
24   NG3 = NG — 3
23   NG2 = NG — 2
      NG1 = NG — 1
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22 IF(I SERVE(NG) . EQ . 1)CALL SAIDA(NG, NTC,
    MI, MNCG, MTG)
    II(1) = 1
    DO 30 J = 2, NG
30  II(J) = II(J - 1) + MNCG(J - 1)
    GO TO (1, 2, 3, 4, 5, 6, 7, 8, 9), NG
2    M = 2
    N = 1
    CALL T
1    STOP
3    CALL P3
    STOP
4    CALL P4
    STOP
5    CALL P5
    STOP
6    CALL P6
    STOP
7    CALL P7
    STOP
8    CALL P8
    STOP
9    CALL P9
    STOP
    END

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SUBROUTINE T

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COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,
    NG6, NG7, NG8, M, N
COMMON/T/MI(120), MOI(9), MT(120), II(9), NTC
COMMON/TIS/MNCG(9), MTG(9)
MTGA = MTG(M)
MNCGA = MNCG(M)
MOIA = MOI(M)
MTG(M) = MTG(N)
MNCG(M) = MNCG(N)
MOI(M) = MOI(N)
MTG(N) = MTGA
MNCG(N) = MNCGA

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MOI(N) = MOIA
IF(I SERVE(NG) . NE . 1)RETURN
J = 1
DO 10 ING = 1, NG
  IIA = MOI(ING)
  IT = II(IIA)
  NA = MNCG(ING) + IT - 1
  DO 10 I = IT, NA
  MT(J) = MI(I)
10 J = J + 1
  CALL SAIDA(NG, NTC, MT, MNCG, MTG)
  RETURN
END
```

```
SUBROUTINE P3
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,
NG6, NG7, NG8, M, N
M = NG1
DO 1 J = 1, 2
  N = NG
  CALL T
1 CALL T
  N = NG
  CALL T
  RETURN
END
```

```
SUBROUTINE P4
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,
  NG6, NG7, NG8, M, N
DO 1 J = 1, 2
  CALL P3
  M = NG3
  N = NG2
1 CALL T
  CALL P3
  M = NG3
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N = NG  
CALL T  
CALL P3  
RETURN  
END
```

```
SUBROUTINE P5  
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,  
    NG6, NG7, NG8, M, N  
DO 1 J = 1, 4  
    CALL P4  
    M = NG4  
    N = NG3  
1    CALL T  
    CALL P4  
    RETURN  
    END
```

```
SUBROUTINE P6  
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,  
    NG6, NG7, NG8, M, N  
DO 1 J = 1, 2  
    CALL P5  
    M = NG5  
    N = NG4  
1    CALL T  
    DO 2 K = NG2, NG  
        CALL P5  
        M = NG5  
        N = K  
2    CALL T  
    CALL P5  
    RETURN  
    END
```

```
SUBROUTINE P7  
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,  
    NG6, NG7, NG8, M, N
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DO 1 J = 1, 6  
CALL P6  
M = NG6  
N = NG5  
1 CALL T  
CALL P6  
RETURN  
END

SUBROUTINE P8  
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,  
NG6, NG7, NG8, M, N  
DO 1 J = 1, 2  
CALL P7  
M = NG7  
N = NG6  
1 CALL T  
DO 2 K = NG4, NG  
CALL P8  
M = NG7  
N = K  
2 CALL T  
CALL P8  
RETURN  
END

SUBROUTINE P9  
COMMON/P39T/NG, NG1, NG2, NG3, NG4, NG5,  
NG6, NG7, NG8, M, N  
DO 1 J = 1, 8  
CALL P8  
M = NG8  
N = NG7  
1 CALL T  
CALL P8  
RETURN  
END

```
FUNCTION I SERVE(NG)
COMMON/TIS/MNCG(9), MTG(9)
I SERVE = 1
RETURN
END
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```
100 SUBROUTINE SAIDA(NG, NTC, MT, MNCG, MTG)
    DIMENSION MT(120), MNCG(9), MTG(9)
    WRITE(2, 100) (MT(I), I = 1, NTC)
    FORMAT(1X, 120A1)
    RETURN
    END
```