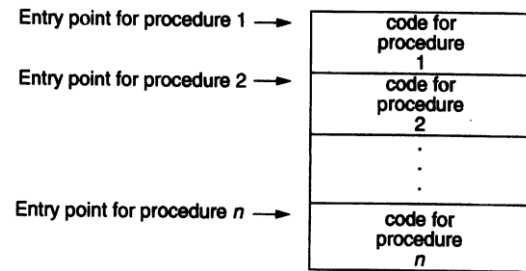Runtime Environment

Memory Models:
- Tiny (ONE Segment ONLY)
- Small
- Compact
- Medium
- Large
- Huge

code area
global/static area
stack
free space
heap

Entry point for procedure 1 →

code for procedure 1

Entry point for procedure 2 →

code for procedure 2
. . .

Entry point for procedure n →

code for procedure n

Procedure Activation Record

space for arguments (parameters)
space for bookkeeping information, including return address
space for local data
space for local temporaries
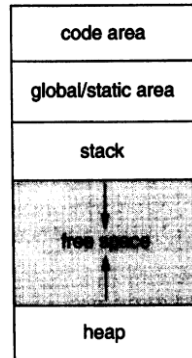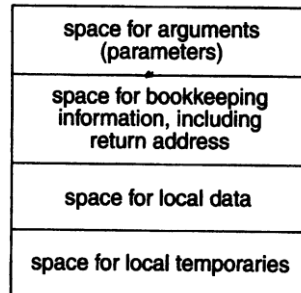
Fully Static Runtime Environment
- All Data is static
- No pointers
- No Dynamic Memory Allocation)

code for main procedure
code for procedure 1
. . .
code for procedure *n*
global data area
activation record of main procedure
activation record of procedure 1
. . .
activation record of procedure *n*

Code area

Data area
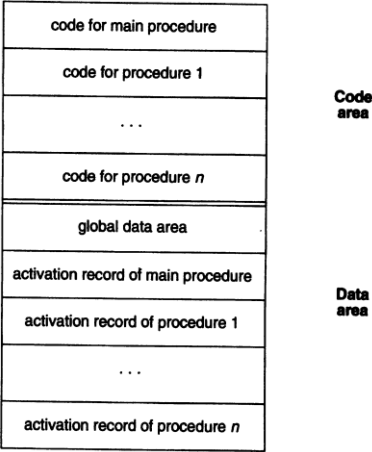
```
PROGRAM TEST
COMMON MAXSIZE
INTEGER MAXSIZE
REAL TABLE(10),TEMP
MAXSIZE = 10
READ *, TABLE(1),TABLE(2),TABLE(3)
CALL QUADMEAN(TABLE,3,TEMP)
PRINT *, TEMP
END

      SUBROUTINE QUADMEAN(A,SIZE,QMEAN)
      COMMON MAXSIZE
      INTEGER MAXSIZE,SIZE
      REAL A(SIZE),QMEAN, TEMP
      INTEGER K
      TEMP = 0.0
      IF ((SIZE.GT.MAXSIZE).OR.(SIZE.LT.1)) GOTO 99
      DO 10 K = 1,SIZE
         TEMP = TEMP + A(K)*A(K)
10    CONTINUE
99    QMEAN = SQRT(TEMP/SIZE)
      RETURN
      END
```

Global area

Activation record
of main procedure

Activation record
of procedure
QUADMEAN

MAXSIZE
TABLE (1) (2) ••• (10)
TEMP
3
A
SIZE
QMEAN
return address
TEMP
K