

```

C -----
C matrix multiplication
C
C 1. compile with automatic parallelization and highest reporting level
C   ifort -O3 -parallel -par-report3 matmult.f -o matmult
C
C 2. set number of threads and prohibit dynamic adjustment of number
C   export set OMP_DYNAMIC=FALSE
C   export set OMP_NUM_THREADS=<number of threads>
C
C 3. prepare runtime monitoring in other window showing all threads
C   top -u <username> -H
C
C 3. execute with timing switched on
C   time ./matmult
C -----
C PROGRAM main
C
C INTEGER N, I, J, K
C PARAMETER (N = 4096)
C
C REAL A(N,N), B(N,N), C(N,N)
C
C DO I=1,N
C   DO J=1,N
C     C(I,J) = 0
C     DO K=1,N
C       C(I,J) = C(I,J)+A(I,K)*B(K,j)
C     ENDDO
C   ENDDO
C ENDDO
C
C DO I=1,N
C   DO J=1,N
C     PRINT *, C(I,J)
C   ENDDO
C ENDDO
C
C END

```