

Homework #8

The fragment of a Fortran program below finds the distance between the nearest pair among N points in two dimensions. This implementation is wasteful in computer resources. Can you suggest at least 4 simple changes that will improve its computational performance? (You are *not* asked to verify that they improve performance.)

```
! ... x and y have been assigned values earlier ...
m=1E38
do i=1,N
  do j=1,N
    if (i==j) cycle ! skips to next iteration
    r(i,j) = sqrt((x(i)-x(j))**2. + (y(i)-y(j))**2.)
    if (r(i,j)<m) m=r(i,j)
  enddo
enddo
! m is minimum distance
```