1. Suppose that a 1.024-Mbyte file is stored on a disk drive with the following characteristics.

Rotational speed	10,000 RPM
Average seek time	5ms
No. of sectors/track	1000
Sector size	512 bytes

a) Compute the average rotational latency;

b) If we store this file sequentially on this disk (the file occupies adjacent tracks), estimate the total time to read the file;

c) Suppose that this file is distributed randomly over the disk. Estimate the total time to read the file.

2. In many references, we could find an average seek time as roughly one-third of the full seek time (move the disk arm from the innermost track to the outermost track). Assuming that the seek time is a linear function of the number of tracks traversed, show the analysis on the average seek time.

3. Assume that a hard disk has 200 tracks (track 0-199).
a) Fill out the following table by providing the track numbers the disk arm will travel with the following 4 scheduling policies, FIFO, SSTF, SCAN and C-SCAN. The sequence of track requests is 82, 170, 43, 140, 24, 16, 190. The disk head is currently at track 50 and is moving towards track 199.

FIFO							
SSTF							
SCAN							
C-SCAN							

b) Compute the average seek length of the 4 scheduling policies.