1. Suppose that a disk drive has 5,000 cylinders, numbered 0 to 4,999. The drive is currently serving a request at cylinder 2,150, and the previous request was at cylinder 1,805. The queue of pending requests, in FIFO order, is:

2,069, 1,212, 2,296, 2,800, 544, 1,618, 356, 1,523, 4,965, 3681

Starting from the current head position, what is the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests for each of the following disk-scheduling algorithms?

a. FCFS
b. SSTF
c. SCAN
d. LOOK
e. C-SCAN
f. C-LOOK

解: a) if choose FCFS, then the order is
2150, 2069, 1212, 2296, 2800, 544, 1618, 356, 1523, 4965, 3681
total distance is 13011.

b) if choose SSTF, then the order is
2150, 2069, 2296, 2800, 3681, 4965, 1618, 1523, 1212, 544, 356
total distance is 7586.

c) if choose scan, then the order is
2150, 2069, 1618, 1523, 1212, 544, 356, 0, 2296, 2800, 3681, 4965, 4999
total distance is 6793.

d) if choose look, then the order is
2150, 2069, 1618, 1523, 1212, 544, 356, 2296, 2800, 3681, 4965
total distance is 6403.

e) if choose C-SCAN, then the order is:
2150, 2069, 1618, 1523, 1212, 544, 356, 0, 4999, 4965, 3681, 2800, 2296
total distance is 9852.

f) if choose C-LOOK, then the order is:
2150, 2069, 1618, 1523, 1212, 544, 356, 4965, 3681, 2800, 2296
total distance is 9672.