

Assignment 5

Please complete a report in English **in English in English in English** and upload the corresponding codes.

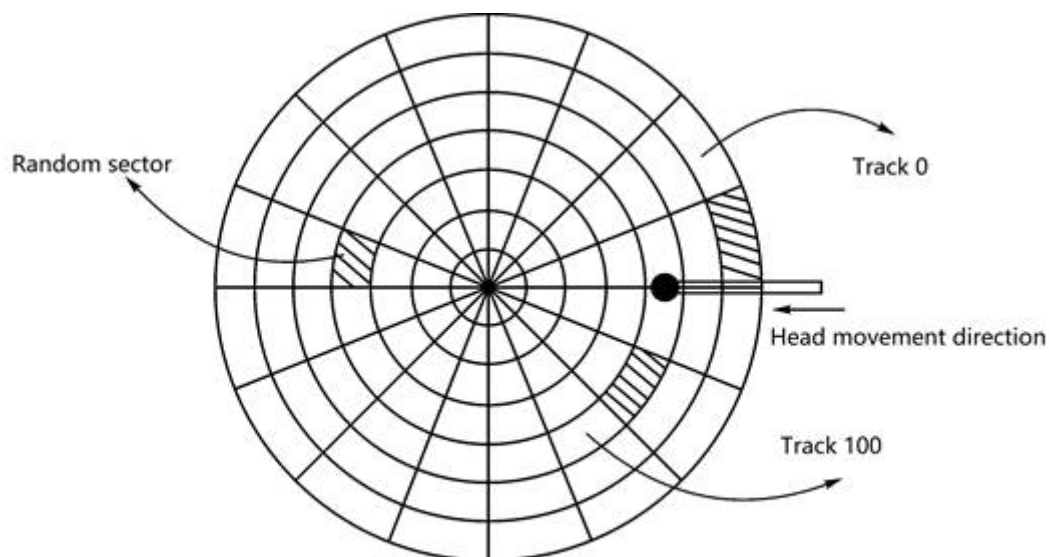
The files should be uploaded directly without compression **without compression without compression without compression**

The files to be submitted for this assignment are:

1. report.pdf

1. Disk scheduling [50 pts]

Suppose the computer system uses the disk as the following:



The disk has **200 tracks** in total. Let a single-sided disk rotation speed be **12000r/min** per minute, each track has **100 sectors**, and the average movement time between adjacent tracks is **1 ms**. If at some point, the head is located at track 100 and moves in the direction in which the track number increases, the track number request queue is 70, 30, 90, 120, 60, 20. A randomly distributed sector is read for each track in the request queue.

(1) READ/WRITE data time = (1) _____ + (2) _____ + (3) _____. [10 pts]

(2) Use FIFO\STTF\SCAN\CSCAN algorithm to read the six sectors, [40pts]

- a) write the track access sequence
- b) how much time is required in total? The calculation process is required.

2. Simple File System [50 pts]

Please draw the architecture diagram of the **sfs.img** according to the project we had given.

The directory structure of `disk0` in the project:

```
disk0
├─ dir1
│   └─ file1
├─ hello
├─ sh
└─ test
```

Some requirements:

If this block is an entry, please give the name and ino number.

If this block is an inode of entry, you need to draw the direct array or indirect pointer.

In freemap, you only need to say which bit are 1.

The others just need to explain what this block is.

Sample:

