CSE-215

1805021

SW1-1

a) Storage size of one platter in GB :-

1 side of platter contains

$$20000 \times (2000 + 1000) \text{ sectors.}$$

$$= 6 \times 10^7 \text{ sectors.}$$

$\therefore$ A whole platter has 12×10^7 sectors.

$$\therefore \text{Total size} = \frac{12 \times 10^7 \times 512}{10^9} \text{ GB}$$

$$= 61.44 \text{ GB.} \quad \text{(Ans:)}$$

b) Storage size of the disk

$$= (5 \times 61.44) \text{ GB}$$

$$= 307.2 \text{ GB} \quad \text{(Ans:)}$$

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Date:...../...../.....

Q2W1-2

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a) Block is used in DBMS instead of ~~disk~~ segment because when file size is very large, segment storage size is too much and many in number.

b)

Relation	Starting Track No.
Customer ⟶	1
Product ⟶	10001
Sale ⟶	20001

c) To read/write, disk arm swings to position head on track and platter spins continually. Data is read/write on both sides as sector passes under head. Here,

Query	Seek No.
Q1 ⟶	1
Q2 ⟶	1
Q3 ⟶	0

QBW1-3

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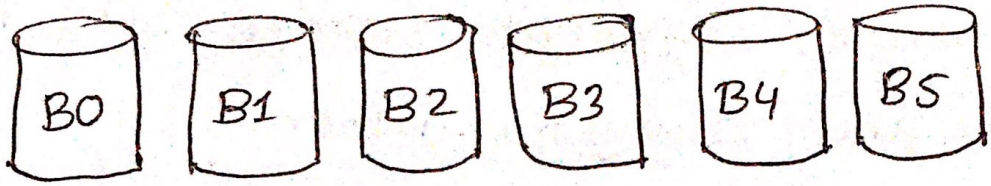
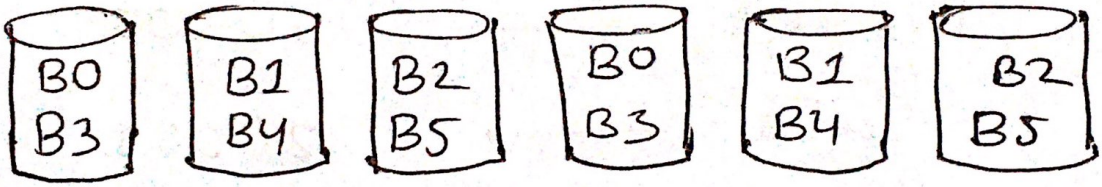
a) RAID level 0:

Effective storage:- 24 TB



b) RAID level 1:

Effective storage:- 12 TB



c)
- RAID level 0 has more capacity
- RAID level 0 has more speed.
- RAID level 1 has more reliability.

Q.W1-4

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a) RAID 0 ⟶ 48TB

RAID 1 ⟶ 24TB

RAID 5 ⟶ 40TB

b) In order to update a single block in RAID 5, we have to read data from that block alongside the related parity block. So, we read 2 blocks. Then, we write data to that block and parity block. So, we write 2 blocks. Thus, 4 blocks are transferred in a single update.