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Q1 Explain indexed sequential access scheme for file organization.

A. In indexed sequential access scheme, Data in a file cane be organized, rether than a single defined file structure. In this scheme an index is created with key field and pointers to various blocks. Basically, there are two files maintained an undexed file with index and pointers while the master file with all records.

→ each record has a range of bytes and constitutes a key such as account no., person ID etc.

→ when file is essentialy too loaded, they are sorted by key

→ There is an index that makes it possible to retrive up a record by key value

→ Records can be read based on index key, by index lookup and retrival.

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→ Records can be updated but its key cannot be changed

→ Records can be read sequentially from start to end.

Index File			Master File		
ID	Position	Position	ID	Name	Salary
10	5	1	20	Mishty	5000
20	1	2	36	Rohan	2000
30	2	3	50	Seema	2400
40	6	4	80	Sneha	5000
		5	10	Sana	8000
		6	40	Rita	9000.

Q2. What are the basic file operation?

Sol^n A file is a abstract datatype. for defining a file property, we need to considor the operations that can be performed on file there are six basic file operations within an operating Sypstem. these are

(a) creating a file :- There are two Steps necessary to create a file. First, Space in file system must be found for a file. so to allocate Space for file. second, an entry for new file must be made in directory.

(b) writing a file :- To write to a file, you make a system call specify about both. the name of the file along with information to be written to file.

(c) Reading a file :- To read from a file, we use a system call which species the a name of the file and where within memory, the namt block of file should be placed.

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(d) Repositioning inside a file :- The directory is for suitable entry, and the " current file position pointer' is relocating to a given value : Relocation within a file need not require any I/O. It is also called " File Seek".

(e) Deleting a file :- For deleting a file you must search directory for specific file. Deletion of file releases all file space that can be used by other files.

(f) Truncating a file :- The user may wish to erase contents of a file but keep the attributes Same Rather then deleting a file and recreate it; this utility allows all attributes of file to remain unchanged - except file length - and allows user to add or edit file content

Q3. Explain Hashed Indices.

Ans Hashed Indices uses the concepts of hashing. As hashing is used to comput the address of a record by using hash function on Search key value. If at any point to time, hashed value map to same address, then collision occurs and schemes to resolve collisions are applied to generate new address.

The critical to success of this technique is to choose a good hash function i.e. it has two things first. It should give an average case lookup i.e. small constant, irrespective of number of search key. Secondly, the function distributes records uniformly and randomly among the buckets. Correspondingly, worst hash function maps all the keys to same bucket.

It is recommended to set number of buckets to twice the number of search key values in file This gives a good space - performace trade off, A hashed file organisation uses hashed.

indices. Hashing is used to calculate address of disk block where desired record is stored.

In a hashed file organisation, secondary indices needs to be organised using hashing.