FILE ORGANIZATION - FİNAL ÇALIŞMA

1) Which description represents the meaning of static tree structure?
Deletion or insertion affects only the leaf pages.

2) Which expression is not correct for any part of a program in C programming language?
while((c = getc(stdlib.h)) != EOF)

3) How many pages do we need to read for reaching a leaf node in a B+ tree with height 8?
9

4) Which index type provides a location for each record that exists in the system?
Implicit index

5) Which method does not represent any tree structure shape?
Use of Buckets

6) During the organization of disks, a … is the set of tracks that can be accessed without moving the disk arm.
Cylinder

7) … files are serial files whose records are sorted and stored in an ascending or descending on a particular key field.
Indexed Serial

-> The numbers being placed in a binary tree are:
6-7-4-12-7dup2-2dup-5-7dup-11.

8) What is the postOrder treversal of the tree? (LRD)
2-5-4-11-12-7-6

9) What is the preOrder treversal of the tree?(DLR)
6-4-2-5-7-12-11

-> Hash Function: h(key) = key mod 50
Keys: 55, 75, 115, 125, 150 -> The keys are operated based on this seq
All keys are located into an adress with progressive overflow.
We totally have 26 available address between 0-25.
Only one key can stay in an address.

10) What is the average search length?
1.4

11) Which group gives all keys that are not located into their addresses?
125, 150

12) Which keys are located in the same bucket if we assume two keys per bucket?
75, 125

13) What is the last sequene of those keys after locations?
(From top to bottom in the table)
125, 150, 55, 115, 75

14) In which method do we practice double hashing as the second function of the key during the collisions of the record?
Linear Quotient

15) What is “cellar” in coalesced hashing?
Overflow area

16) Suppose the index file on the down with the record number of 500000 and default block size of 1000 bytes. How many block(N) should be totally for this file?
(Compute the constant record size from the table)

Attribute Name	Data Type	Disk Area
Name	Char(15)	15 byte
(Record Pointer)	Special	5 byte

10000

17) If the index doesn't fit in memory, we can create a … index for any type of first-level index such as … index as long as original file consist of more than one disk block.
Which pairs of words complete the sentence respectively in a true way?
multi-level, secondary

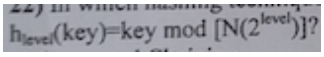
18) Find the probable address of nine-digit key 527469856 with using the order of 725 + 469+ 658 in the hash function with folding process by boundary?
1852

19) Which one is not true about the number of passes in the general External Merge Sort?
It covers three buffer pages at each step.

20) Which one is not true for Indexed Sequential Access Method(ISAM)?
Leaf pages contain index entries.

21) For magnetic disks, often several platters are organized into a
disk pack

22) In which hashing technique of expandable files, we can map a key into a chain of of data pages by using the function



Linear Hashing

23) Insert the letters of “computer” into AVL tree.
At which level, “e” will stand?(Root Level = Level 0)

Level 3

24) Insert the records with the keys 65, 53, 16, 89, 13, 38 into a table using extendible hashing. Use f(key)=key mod 13 (4 bits,right justified) Assume that each page may hold up to three records.
What will be index depth?
4

25) Insert the cities Bilecik, Adana, Denizli, Burdur, Rize, Nevşehir, Gaziantep into a B-tree of order one by alphabetic keys.
At which level, “Nevşehir” will stand?
Level 2

1) Which file type should we use if we want to reach a record without searching through other records? **Random - Access**

2) Which is not true for B+ trees? **It is a static tree structure**

3) In … index, tha data file is ordered only on a non-key field.
Clustering

4) Which file command is not used for writing operation? **fgets**

*5) Calculate transfer time for a random file according to the relevant part of the given information:
Number in file: 50000, Transfer Rate: 200 char/sec
Average Latency: 10 sec, Size of file: 8000 characters.
40 sec

6) Which internal node cannot stay insdie a B+ tree structure with an order of 3? **41-33-201-15-2-10**

*7)

240-60x(1-P(0))

*8) What is the expected number of address with three records?
240x(1-P(0))

9) Which data structure organizes records with tree or hashing?
Index

10) What does “B” refer to B+ trees? **Balanced**

11) The … of a node is the number of subtrees of the node. **Degree**

12) Which of the followings is a difference between B and B+ trees?
B+ trees don’t store data pointer in interior nodes, they are only stored in leaf nodes. On the other hand, B trees do.

13) Children of the same parent are … **Siblings**

14) Which of the followings is a legal B-tree for when the minimum branchin factor t=3?
ABC - D - FGH

15) Consider a B+ tree in which the maximum number of keys in a node is 5. What is the minimum number of keys in any non-root node?
3

16) Which one of the following is a key factor for preferring B-trees to binary search trees for indexing database relations?
Data transfer form disks in blocks.

17) Consider the binary tree below. Which of the followings list the sequence of nodes visited by preorder?
ABDGEHICFJ

24) I have a family structure. Family members can have multiple children. At least there are three generations. What data structure best fit for this organization?
B Tree

25) Which one is not the hash functions?
Alphabetic Keys

-> The numbers being placed in a binary tree are:
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3) What is the postOrder treversal of the tree?
2-5-4-11-12-7-6

4) What is the preOrder traversal of the tree?
6-4-2-5-7-12-11

5) What is the inOrder treversal of the tree?
2-4-5-6-7-11-12

7) Which type of file organization includes both of the sequential and random access methods? **Indexed Sequential**

10) Which one is not true for pimary index?
It is a type of multi-level indexes.

11) Which is not true for Indexd Sequential Access Method(ISAM)?
Leaf pages contain index entries.

12) Which one is not a property of B+ trees?
The root has at least X keys and at most 2X keys.

13) What is the first step in bulk loading B+ tree index?
Insertion

15) Which file command does not include “sizeof(struct structName)” in its related examples?
fwrite

16) Which file mode opens or creates a file for update in binary mode; writing is done at the end of the file?
ab+

17) Which index type usually … index entries?
Primary

19) The … index may be on a fiedl which is a candidate key and has a unique value record, or a nonkey with duplicate values.
Secondary

20) Which device is a kind of optical disks? **DVD**

21) Which one is the time to move the read/write arm to the correct cylinder? **Seek Time**

22) Which is used to store Name-Surname-Grade in a class together?
Record

23) In hash-based indexes, … contain data entries. **Buckets**

24) Which operation reduces wait time for I/O, but increases throughput for sorting? **Merging**

25) … is a channel that connects the program to a physical file.
Logical File