

School Number:

08.04.2015

Name-Surname:

*****File Organization Midterm Exam*****

Please mark your answers clearly on the following Answer Sheet. Each true answer is 4 points.

The evaluation will be done over only this Answer Sheet. Good Luck...

The questions between 1-21 should be solved depending on Classroom and the others on Laboratory studies.

1.	a	b	c	d	6.	a	b	c	d	11.	a	b	c	d	16.	a	b	c	d	21.	a	b	c	d
2.	a	b	c	d	7.	a	b	c	d	12.	a	b	c	d	17.	a	b	c	d	22.	a	b	c	d
3.	a	b	c	d	8.	a	b	c	d	13.	a	b	c	d	18.	a	b	c	d	23.	a	b	c	d
4.	a	b	c	d	9.	a	b	c	d	14.	a	b	c	d	19.	a	b	c	d	24.	a	b	c	d
5.	a	b	c	d	10.	a	b	c	d	15.	a	b	c	d	20.	a	b	c	d	25.	a	b	c	d

f)

<pre> class fileS { public int set; public double[] plossNode; public int arrSize; } </pre>	<p>What does the C# program code at left represent related to file organization?</p> <p>a) File system b) Array c) Record d) Sequential file</p>
---	--

➤ Answer the questions between 2-5 according to the following information:

Hash Function: $h(\text{key}) = \text{key} \bmod 50$

Keys: 55, 75, 115, 125, 150 → The keys are operated based on this sequence.

All keys are located into an address with progressive overflow. We totally have 26 available addresses between 0-25. Only one key can stay in an address.

- 2) What is the average search length?
a) 2.6 b) 1.5 c) 1.4 ☒ d) 1.0
- 3) Which group gives all keys that are not located into their home addresses?
a) 55, 115 b) 55, 75 c) 75, 125 ☒ d) 125, 150
- 4) Which keys are located in the same bucket if we assume two keys per bucket?
a) 55, 115 b) 55, 75 ☒ c) 75, 125 d) 125, 150
- 5) What is the last sequence of those keys after locations? (From top to bottom in the table.)
☒ a) 125, 150, 55, 115, 75 b) 150, 55, 115, 75, 125 c) 55, 75, 125, 115, 150 d) 150, 125, 55, 115, 75
- 6) Which one is not an adjective (property) of secondary storage? (Compare with RAM!)
a) Large b) Slow c) Stable d) Expensive
- 7) What is the hash address when you convert the number 125 (in base 7) into another number in base 10 and then apply radix transformation for the addresses from 0 to 15?
a) 6 b) 8 c) 10 d) 11
- 8) Which pair gives the other names of "bucket" correctly?
a) Page/Block b) Progressive/Overflow c) Packing density/Hash d) Hash/Overflow
- 9) Suppose that we choose truncation as the hashing function. We have a key such as 12345 and a table with 100 addresses. How many digits could we use as an address?
a) 345 b) 100 c) 3 d) 2
- 10) A pile file has the properties as total number of blocks=45, average delay=4, block transfer time=5. What is the time to fetch one certain record approximately in this file?
a) $(45/5)+4$ b) $(45/2)*5$ c) $45*4+5$ d) $45*5$
- 11) In which file type should the data be read from beginning to end?
a) Record-access b) Sequential-access c) Random-access d) Fixed length-access

- 12) is the time to actually read or write the data in the block once the head is positioned, i.e., the time for the disk to rotate over the block.
 a) Seek time b) Rotational delay c) Transfer time d) Latency
- 13) Which situation has a different packing density than the others?
 a) Storing 60 data records into a hashed file with 50 bucket addresses, each bucket holding 4 records.
 b) Storing 60 data records into a hashed file with 100 bucket addresses, each bucket holding 2 records.
 c) Storing 180 data records into a hashed file with 200 bucket addresses, each bucket holding 6 records.
d) Storing 30 data records into a hashed file with 100 addresses, each holding 1 record.
- 14) Which argument is not included in an 'fseek' command?
 a) SEEK_END b) SEEK_SET c) SEEK_CUR d) SEEK_START
- 15) Where is the exact place of buffering?
 a) Main memory b) Operating system c) File system d) Secondary storage
- 16) Which C command fills the blank correctly? ('y', stdout)
 a) fgetc b) fprintf c) fputc d) fscanf
- 17) Which file mode in C programming language cannot be used to create a file for writing?
 a) a+ b) w c) w+ d) r+
- 18) Fixed-length records consist of fixed-length or variable-length
 a) Fields b) Keys c) Bytes d) Files
- 19) What is the difference between C command of 'fscanf' and 'scanf'?
 a) Array description b) File pointer c) Header files d) Variable types near the sign %
- 20) Which sentence is not related to the larger capacity of DVD?
 a) DVD has smaller pits. b) Data is recorded on the first layer with laser.
 c) DVD has tighter spiral. d) Data is recorded as many as four layers.
- 21) Which method of file organization converts record key into an address without care of any primary key sequence?
 a) Random b) Serial c) Indexed Sequential d) Sequential
- 22) What type of file is implemented hardly to the applications those are written with different programming languages?
 a) Hashed b) Random c) Sequential d) Non-Hashed Random
- 23) You have a sequential-accessed file and you'd like to read last record in that file. How many records you must read before reaching requested record? (N records are stored in the file.)
 a) N/2 b) N² c) N+1 d) N-1

➤ Answer the questions between 24-25 according to the following information:

A file that contains 52,000 citizen numbers will be written into storage disc. Specifications of the disc are written below:

-130 bpi (disc density)

-Start/Stop time: 5 s.

-Reading/Writing time: 100 s/inch

-Gap(Inter-block Gaps): 0.5"

Take the blocking factor(BF)=10;

24) Find the total time to read this file?

- a) 900 minutes b) 1100 minutes c) 1300 minutes d) 1500 minutes

25) How much time will it take with BF=13?

- a) 1000 minutes b) 1200 minutes c) 800 minutes d) 700 minutes