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Question 2
Not yet answered
Marked out of 1.0
Flag question

Given the following set of processes with their arrival times and burst times, compute the average waiting time for processes for the round-robin (quantum = 3) scheduling.

Process	Arrival time	Burst time
A	0	8
B	1	5
C	5	2
D	8	1

Select one:
- a. 8 seconds
- b. 4 seconds
- c. 6 seconds
- d. 24 seconds
- e. None of the above

Moodle

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≡ Quiz navigation

Question 2
Not yet answered
Marked out of 1.0
Flag question

Choose the correct statement

Finish attempt...
Time left 0:56:18

Select one:
- a. Long-term scheduler selects which process should be sent out from the ready queue to the CPU
- b. Short-term scheduler is invoked very frequently
- c. CPU-bound process spends more time doing computations: therefore it's having many CPU bursts
- d. Ready Queue contains all the processes in the system which are newly created

Next page

stion 3

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Flag question

Which of the following are the states of a five state process model?

i) Running   ii) Ready   iii) New   iv) Exit   v) Destroy

Select one:

○ a. i, ii, iii, and iv only

○ b. All i, ii, iii, iv and v

○ c. i, ii, iv and v only

◉ d. i, ii, iii and v only

Next page

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Choose the correct statement

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Select one:

○ a. Long-term scheduler selects which process should be sent out from the ready queue to the CPU

○ b. Short-term scheduler is invoked very frequently

○ c. CPU-bound process spends more time doing computations; therefore it's having many CPU bursts

○ d. Ready Queue contains all the processes in the system which are newly created

Next page

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What is the functuion of the short-term scheduler?

Select one:

○ a. It selects which process has to be brought into the ready queue

◉ b. It selects which process has to be executed next and allocates CPU

○ c. It selects which process to remove from memory by swapping next

○ d. All of the above

≡ Quiz navigation

Finish attempt...

Time left 0:50:32

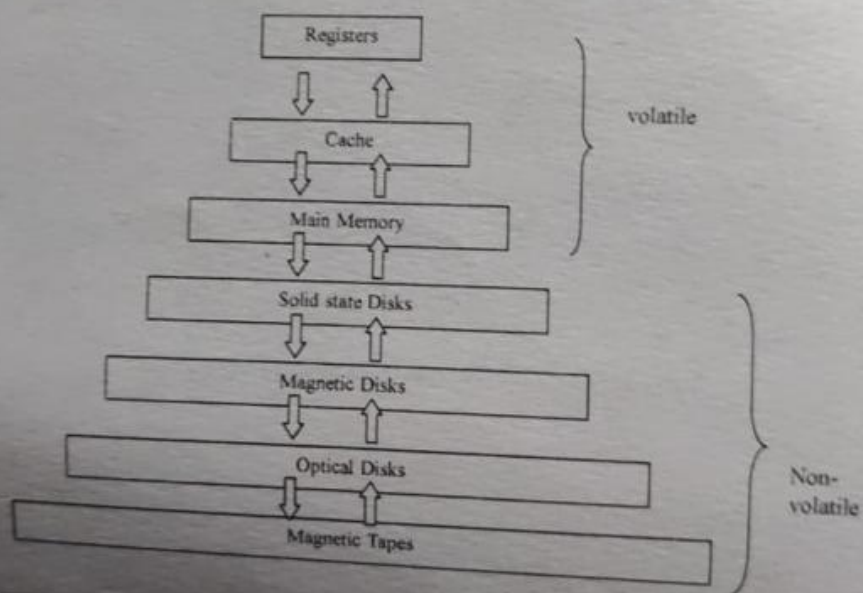| 1	2	3	4	
8	9	10	11	1
15	16	17	18	19

Next page

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Storage Memory Hierarchy from top to bottom is,

Select one:

○ a. Registers, Cache, Main memory, Electronic disk, Optical disk, Magnetic disk, Magnetic tapes

○ b. Registers, Cache, Main memory, Electronic disk, Magnetic disk, Optical disk, Magnetic tapes

◉ c. Registers, Cache, Main memory, Magnetic disk, Optical disk, Magnetic tapes, Electronic disk

○ d. Registers, Cache, Optical disk, Main memory, Magnetic disk, Magnetic tapes, Electronic disk

AGE STRUCTURE

ms are organized
n terms of:

Registers	
Cache	
Main Memory	volatile
Solid state Disks	
Magnetic Disks	
Optical Disks	Non-volatile
Magnetic Tapes	

MANCE OF VARIOUS LEVELS OF STORAGE

1	2	3	4	5
registers	cache	main memory	solid state disk	magnetic disk
< 1 KB	< 16MB	< 64GB	< 1 TB	

The most optimal scheduling algorithm is

Select one:

○   a. FCFS – First come First served

○   b. SJF – Shortest Job First

○   c. RR – Round Robin

○   d. None of these

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For real time operating systems, interrupt latency should be

Select one:

○   a. minimal

○   b. dependent on the scheduling

○   c. maximum

○   d. zero

on 7

t answered

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g question

What is the most suitable answer regarding the relationship between an **interrupt** and **system call**?

Select one:

- a. Request the operating system to allow user to wait for I/O completion
- b. An operating system is interrupt driven
- c. The operating system preserves the state of the CPU by storing registers and the program counter
- ● d. Program invokes a system call by generating an interrupt

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Finish attem

Time left 0:41

1	2
8	9
15	16

Next page

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Flag question

If all processes are I/O bound, the ready queue will almost always be _____, and the Short term Scheduler will have a _____ to do.

Select one:

- ● a. empty,little
- b. full,little
- c. full,lot
- d. empty,lot

Next page

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Question 10
Not yet answered
Marked out of 1.0
⚑ Flag question

Storage Memory Hierarchy from top to bottom is,

Select one:

○ a. Registers, Cache, Main memory, Electronic disk, Magnetic disk, Optical disk, Magnetic tapes

○ b. Registers, Cache, Main memory, Magnetic disk, Optical disk, Magnetic tapes, Electronic disk

○ c. Registers, Cache, Optical disk, Main memory, Magnetic disk, Magnetic tapes, Electronic disk

◉ d. Registers, Cache, Main memory, Electronic disk, Optical disk, Magnetic disk, Magnetic tapes

≡ Quiz navigation

Finish attempt ...

Time left 0:31:09

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	

Next page

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Question 11
Not yet answered
Marked out of 1.0
⚑ Flag question

Storage systems organized in a hierarchy are,

Select one:

○ a. Cost, Volatility, Caching

○ b. Caching, I/O handling, Speed

○ c. Registers, Speed, Cost

◉ d. Speed, Cost, Volatility

≡ Quiz navigation

Finish attempt ...

Time left 0:29:47

1	2	3	4	5
8	9	10	11	12
15	16	17	18	19

Next page

12

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question

How many child processes are created from the following C code

```c
#include <stdio.h>
int main()
{
        for(int i=0,i<10,i++){
                fork();
                printf("hello\n");
        }
}
```

Answer: 1023

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Question 9

Not yet answered

Marked out of 1.0

⚑ Flag question

Out of the following, what is the most correct statement with reference to an Operating System?

Select one:

○ a. Controls the execution of programs to prevent unauthorized access from third party

○ b. Defines standards and procedures to be used for the existing hardware

○ c. Attention is highly paid to resource utilization rather than performance

◉ d. Manages all the resources for an efficient and fair resource usage

○ e. Provides a better graphical user interface for users

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Finish attempt

Time left 0:34:

1	2	
8	9	1
15	16	1

Next page

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Question 13

Not yet answered

Marked out of 1.0

⚑ Flag question

In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of

Select one:

- ○ a. Init process
- ○ b. Parent process
- ○ c. All processes
- ⦿ d. Crrently running process

Next page

```
int main ( ) {
    for (i=0; i<3; i++)
    {
        Pid = fork ( ) ;
    }
}
```

How many child processors are created?

P1
```
i=0
for (i=0; i<3; i++)
{
    f( )
}
```
i=1

i=0 →

P2
```
i=1
for ( . . . )
{
    f( )
}
```
i=1 →

P3
```
i=2
for ( )
{
    f( )
}
```
i=2 →

P4
```
i=3
for ( ) >
{
    f( )
}
```

i=2

i=2
```
i=2
for ( )
{
    f( )
}
```
i=2 →

P6

i=3
```
i=3
f( ) x
{
    f( )
}
```
P7

i=2

i=3
```
i=3
f( )
{
    f( )
}
```
P5

i=3
```
i=3
f( )
. . . . {
}
```
P8
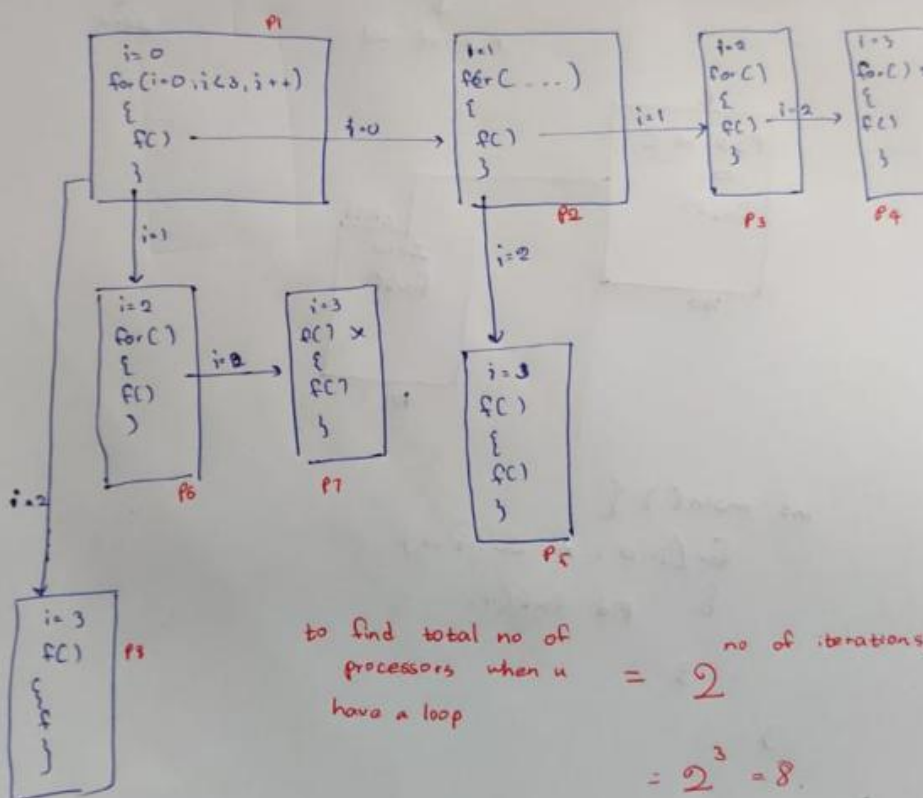
to find total no of
processors when u   =   2   no of iterations.
have a loop

= 2³ = 8.

So child processors = 2³ - 1

= 7

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Question 12
Not yet answered
Marked out of 1.0
Flag question

A process can be terminated due to

Select one:
- a. Normal exit
- b. Fata error
- c. Killed by another process
- d. All of the above

Quiz navigation

Finish attempt ...

Time left 0:27:07

1	2	3	4	5	6
8	9	10	11	12	13
15	16	17	18	19	20

Next page

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Question 14
Not yet answered
Marked out of 1.0
Flag question

Switching the CPU to another Process requires to save state of the current process and loading the state of the new process is called, as _____.

Select one:
- a. Process Blocking
- b. Context Switch
- c. Time Sharing
- d. None of the above

Quiz navigation

Finish attempt ...

Time left 0:22:58

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20

Next page

Question 15

Not yet answered

Marked out of 1.0

⚑ Flag question

In Unix, Which system call creates the new process?

Select one:

- ● a. fork
- ○ b. create
- ○ c. new
- ○ d. none of the mentioned

Next page

10

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Which one of the following error will be handled by the operating system?

Select one:

- ○ a. lack of paper in printer
- ○ b. connection failure in the network
- ○ c. Inefficent use of resouces
- ○ d. all of the above

CSC374 Midterm Solutions

Correct answers are marked ✓ and solution remarks are included.

1. How many <mark>Hello</mark>'s are printed. (Assume fork does not fail.)

```
int main() {
  int i;
  for(i = 0; i < 2; i++) {
    fork();
    printf("Hello\n");
  }
  return 0;
}
```

1. 2
2. 4
3. 6 ✓
4. 8

Solution Remarks: This code is equivalent t

```
fork();
printf("Hello\n");
fork();
printf("Hello\n");
```

Now draw the diagram (where H is for the print statement):

```
         +--- H --
            |
+--- H --+--- H --
|
|        +--- H --
|           |
------+--- H --+--- H --
```

2. Mark ALL the following statements either Y correct and N if not. ASSUME all functions calls succeed unless otherwise noted.

1. Y   The function execvp is called once, but doesn't return.

2. Y   The function fork is called once, but returns twice.

3. N   The function longjmp is called once, but returns one or more times.

4. N   The function setjmp is called once, but doesn't return.

5. Y   If the fork function fails, it returns once.

Solution Remarks:
- When longjmp is called, the call stack replaced by the call stack in the saved

Question 18

Not yet answered

Marked out of 1.0

Flag question

Choose the correct statement

Select one:

- a. *Program Code* of a process is also known as the *Data Section*
- b. Program is a process in execution
- c. Stack of a given process contains the global variables
- d. Program becomes a process when executable file is loaded into main memory

Quiz navigation

Finish attempt ...

Time left 0:12:54

1	2	3	4	5	6
8	9	10	11	12	13
15	16	17	18	19	20

Next page

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Question 19

Not yet answered

Marked out of 1.0

Flag question

Which process can be affected by other processes executing in the system?

Select one:

- a. init process
- b. Child process
- c. Cooperating process
- d. Parent process

Quiz navigation

Finish attempt ...

Time left 0:11:16

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20

Next page

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Question 16

Not yet answered

Marked out of 1.0

⚑ Flag question

Consider the following C program.

// Assume variables *i* and *pid*, and constant *N* have been properly defined, and/or initialized and there is no syntax error.

```
int main ()
{
    for(i =0; i< N, i++) {
        pid=fork ();
    }
}
```

For N=5, How many child processes are created when the program is executed?

Select one:

- ● a. 31
- ○ b. 32
- ○ c. 16
- ○ d. 15
- ○ e. None of the above

Next page

SLIT
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Sri Lanka Institute of Information Technology

Question 17

Not yet answered

Marked out of 1.0

⚑ Flag question

How many processes are created from the following C program

```c
#include <stdio.h>
int main()
{
    for(int i=0;i<10;i++){
        int pid = fork();

        if(pid == 0){
            printf("child\n");
            return 0;
        }

        else{
            printf("parent\n");
        }
    }
}
```

Answer: 10

Consider the following statements and select the most appropriate answer

A) Synchronization is sharing system resources in a way that concurrent processes share a common memory space.

B) The synchronization problem arise in processes.

Select one:

- ○ a. Both statements are true
- ○ b. Statement A is true
- ○ c. Statement B is true
- ○ d. Both statements are not true

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Finish

Question 20

Not yet answered

Marked out of 1.0

⚐ Flag question

RPC provides a(an) _____ on the client side, a separate one for each remote procedure.

Select one:

- ● a. stub
- ○ b. name
- ○ c. identifier
- ○ d. process identifier

☰ **Quiz navigation**

Finish attempt ...

Time left **0:10:19**

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20

Finish attempt

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Question 19

Not yet answered

Marked out of 1.0

⚑ Flag question

A process can be terminated due to

Select one:

- ○ a. Normal exit
- ○ b. Fata error
- ○ c. Killed by another process
- ○ d. All of the above

Question 20

Not yet answered

Marked out of 1.0

⚑ Flag question

The address of the next instruction to be executed by the current process is provided by the

Select one:

- ○ a. pipe
- ○ b. CPU registers
- ○ c. process stack
- ○ d. program counter

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Flag question

Select the correct statement(s)

Select one or more:

- a. FOR is the default when AFTER is the only keyword specified
- b. Columns in the inserted and deleted tables maps directly to a column in table which the trigger is defined
- c. For After triggers are feasible on both tables and views
- d. Format of the inserted and deleted tables are the same as the table on which the trigger is defined
- e. Inserted and deleted tables are views

Next page

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Question 18
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⚑ Flag question

Consider the following C program.

// Assume variables *i* and *pid*, and constant *N* have been properly defined, and/or initialized and there is no syntax error.

```c
int main ()
{
    for(i=0; i<N; i++) {
        pid=fork ();
    }
}
```

For $N=5$, How many child processes are created when the program is executed?

Select one:
- a. 31
- b. 32
- c. 16
- d. 15
- e. None of the above

Next page

Question 3

Not yet answered

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⚑ Flag question

Consider the schema given below.

Suppliers (*sid*: integer, *sname*: string, *address*: string)

Parts (pid: integer, *pname*: string, *color*: string)

Catalog (sid: integer, *pid*: integer, *cost*: real)

How many types of parts were supplied by the supplier 102

Select one:

○ a. None of the above

◉ b. Select count(pid)
From Catalog
Where sid = 102
Group by pid

○ c. Select count(pid)
From Catalog
Having sid = 102

○ d. Select count(pid)

From Catalog
Where sid = 102
Group by sid

○ e. Select count(pid)
From Catalog
Where sid = 102
Order by sid