

MCQs Practice
of
**Introduction to OS and
Process Management**
and
**Memory Management, file Systems
and System Administration**

What is an operating system?

A. interface between the hardware and application programs

B. collection of programs that manages hardware resources

C. system service provider to the application programs

D. all of the mentioned

To access the services of the operating system, the interface is provided by the _____



A. Library

B. System calls

C. Assembly instructions

D. API

CPU scheduling is the basis of _____

A. multiprogramming
operating systems

B. larger memory sized
systems

C. multiprocessor
systems

D. none of the mentioned

Which one of the following errors will be handle by the operating system?

A. lack of paper in printer

B. connection failure in the network

C. power failure

D. all of the mentioned

Where is the operating system placed in the memory?

A. either low or high memory
(depending on the location of interrupt vector)

B. in the low memory

C. in the high memory

D. none of the mentioned

If a process fails, most operating system write the error information to a _____

A. new file

B. another running process

C. log file

D. none of the mentioned

Which one of the following is not a real time operating system?

A. RTLinux

B. Palm OS

C. QNX

D. VxWorks

When a process is in a “Blocked” state waiting for some I/O service.
When the service is completed, it goes to the _____

A. Terminated state

B. Suspended state

C. Running state

D. Ready state

The FCFS algorithm is particularly troublesome for

- A. operating systems
- B. multiprocessor systems
- C. time sharing systems
- D. multiprogramming systems

Swapping _____ be done when a process has pending I/O, or has to execute I/O operations only into operating system buffers.

A. must never

B. maybe

C. can

D. must

The operating system is responsible for?

A. bad-block recovery

B. booting from disk

C. disk initialization

D. all of the mentioned

In real time operating system

A. process scheduling
can be done only once

B. all processes have the
same priority

C. kernel is not
required

D. a task must be serviced by
its deadline period

The information about all files is kept in _____

A. operating system

B. separate directory structure

C. swap space

D. none of the mentioned

The operating system keeps a small table containing information about all open files called _____



A. file table

B. directory table

C. open-file table

D. system table

What will happen in the single level directory?

A. All files are contained
in the same directory

B. All files are contained in different
directories all at the same level

C. Depends on the
operating system

D. None of the mentioned

To recover from failures in the network operations
information may be maintained.

A. operating system

B. ip address

C. stateless

D. state

Whenever a process needs I/O to or from a disk
it issues a _____

A. system call to the operating system

B. a special procedure

C. system call to the CPU

D. all of the mentioned

The two steps the operating system takes to use a disk to hold its files are _____ and _____



A. caching & logical
formatting

B. logical formatting &
swap space creation

C. swap space
creation & caching

D. partitioning & logical
formatting

Network operating system runs on _____

A. every system in the network

B. server

C. both server and every system in the network

D. none of the mentioned

What are the types of distributed operating systems?

A. Zone based Operating system

B. Level based Operating system

C. Network Operating system

D. All of the mentioned

In Unix, which system call creates the new process?



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A. create

B. fork

C. new

D. None of the mentioned
above

A process can be terminated due to _____



- A. normal exit
- B. fatal error
- C. killed by another process
- D. all of the mentioned

What is the ready state of a process?

A. when process is scheduled
to run after some execution

B. when process is unable to run
until some task has been
completed

C. when process is
using the CPU

D. none of the mentioned

What is interprocess communication?

A. communication
within the process

B. communication between
two process

C. communication between
two threads of same
process

D. none of the mentioned

A Process Control Block(PCB) does not contain which of the following?

A. Code

B. Stack

C. Bootstrap program

D. Data

The number of processes completed per unit time is known as _____



A. Output

B. Throughput

C. Efficiency

D. Capacity

The state of a process is defined by _____

A. the final activity of
the process

B. the activity just executed
by the process

C. the activity to next be
executed by the process

D. the current activity of the
process

Which of the following is not the state of a process?



A. New

B. Old

C. Waiting

D. Running

The child process can _____

- A. be a duplicate of the parent process
- B. never be a duplicate of the parent process
- C. cannot have another program loaded into it
- D. never have another program loaded into it

What will happen when a process terminates?

A. It is removed from all queues

B. It is removed from all, but the job queue

C. Its process control block is de-allocated

D. Its process control block is never de-allocated

The interval from the time of submission of a process to the time of completion is termed as _____

A. waiting time

B. turnaround time

C. response time

D. throughput

Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?

A. first-come, first-served scheduling

B. shortest job scheduling

C. priority scheduling

D. none of the mentioned

In priority scheduling algorithm _____

A. CPU is allocated to the process with highest priority

B. CPU is allocated to the process with lowest priority

C. Equal priority processes can not be scheduled

D. None of the mentioned

Which algorithm is defined in Time quantum?

A. shortest job
scheduling algorithm

B. round robin scheduling
algorithm

C. priority scheduling
algorithm

D. multilevel queue
scheduling algorithm

Which one of the following can not be scheduled by the kernel?

A. kernel level thread

B. user level thread

C. process

D. none of the mentioned

The portion of the process scheduler in an operating system that dispatches processes is concerned with _____

A. assigning ready processes to CPU

B. assigning ready processes to waiting queue

C. assigning running processes to blocked queue

D. all of the mentioned

The real difficulty with SJF in short term scheduling is

- A. it is too good an algorithm
- B. knowing the length of the next CPU request
- C. it is too complex to understand
- D. none of the mentioned

The FCFS algorithm is particularly troublesome for

A. time sharing systems

B. multiprogramming systems

C. multiprocessor systems

D. operating systems

Which of the following scheduling algorithms gives minimum average waiting time?



A. FCFS

B. SJF

C. Round – robin

D. Priority

Concurrent access to shared data may result in _____

A. data consistency

B. data insecurity

C. data inconsistency

D. none of the mentioned

The segment of code in which the process may change common variables, update tables, write into files is known as _____



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A. program

B. Critical section

C. non – critical
section

D. synchronizing

Which of the following conditions must be satisfied to solve the critical section problem?

A. Mutual Exclusion

B. Progress

C. Bounded Waiting

D. All of the mentioned

A minimum of _____ variable(s) is/are required to be shared between processes to solve the critical section problem.



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A. one

B. two

C. three

D. four

Semaphore is a/an _____ to solve the critical section problem

A. hardware for a system

B. special program for a system

C. integer variable

D.
d) none

The wait operation of the semaphore basically works on the basic _____ system call.

A. stop()

B. block()

C. hold()

D. wait()

The signal operation of the semaphore basically works on the basic _____ system call.

A. continue()

B. wakeup()

C. getup()

D. start()

The code that changes the value of the semaphore is

A. remainder section code

B. non – critical section code

C. critical section code

D. none of the mentioned

What will happen if a non-recursive mutex is locked more than once?



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A. Starvation

B. Deadlock

C. Aging

D. Signaling

What is a semaphore?

A. is a binary mutex

B. must be accessed from
only one process

C. can be accessed from
multiple processes

D. None of the mentioned

What are the two kinds of semaphores?

A. mutex & counting

B. binary & counting

C. counting & decimal

D. decimal & binary

What is a mutex?

A. is a binary mutex

B. must be accessed from
only one process

C. can be accessed from
multiple processes

D. none of the mentioned

A binary semaphore is a semaphore with integer values _____

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A. 1

B. -1

C. 0.8

D. 0.5

Semaphores are mostly used to implement _____

A. System calls

B. IPC mechanisms

C. System protection

D. None of the mentioned

The bounded buffer problem is also known as _____

A. Readers – Writers
problem

B. Dining – Philosophers
problem

C. Producer –
Consumer problem

D. None of the mentioned

In the bounded buffer problem, there are the empty and full semaphores that

A. count the number of empty and full buffers

B. count the number of empty and full memory spaces

C. count the number of empty and full queues

D. none of the mentioned

The dining – philosophers problem will occur in case of

A. 5 philosophers and 5 chopsticks

B. 4 philosophers and 5 chopsticks

C. 3 philosophers and 5 chopsticks

D. 6 philosophers and 5 chopsticks

A monitor is characterized by _____

A. a set of programmer defined operators

B. an identifier

C. the number of variables in it

D. all of the mentioned

The monitor construct ensures that _____

A. only one process can be active at a time within the monitor

B. n number of processes can be active at a time within the monitor (n being greater than 1)

C. the queue has only one process in it at a time

D. all of the mentioned

Binding of instructions and data to memory addresses
can be done at _____

A. Compile time

B. Load time

C. Execution time

D. All of the mentioned

What is Dynamic loading?

A. loading multiple routines dynamically

B. loading a routine only when it is called

C. loading multiple routines randomly

D. none of the mentioned

The _____ swaps processes in and out of the memory.

A. Memory manager

B. CPU

C. CPU Manager

D. User

The address generated by the CPU is referred to as

A. Physical address

B. Logical address

C. Neither physical
nor logical

D. None of the mentioned

The address loaded into the memory address register of the memory is referred to as _____

A. Physical address

B. Logical address

C. Neither physical nor logical

D. None of the mentioned

The run time mapping from virtual to physical addresses is done by a hardware device called the _____

A. Virtual to physical mapper

B. Memory management unit

C. Memory mapping unit

D. None of the mentioned

The size of a process is limited to the size of _____

A. physical memory

B. external storage

C. secondary storage

D. none of the mentioned

The backing store is generally a _____

A. fast disk

B. disk large enough to accommodate copies of all memory images for all users

C. disk to provide direct access to the memory images

D. all of the mentioned

Swapping requires a _____

A. motherboard

B. keyboard

C. monitor

D. Backing store

The _____ consists of all processes whose memory images are in the backing store or in memory and are ready to run.



A. wait queue

B. Ready queue

C. CPU

D. secondary storage

Swap space is allocated _____

A. as a chunk of disk

B. separate from a file system

C. into a file system

D. all of the mentioned

A memory buffer used to accommodate a speed differential is called _____

A. stack pointer

B. cache

C. accumulator

D. Disk buffer

Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called?

A. fragmentation

B. paging

C. mapping

D. none of the mentioned

The address of a page table in memory is pointed by

A. stack pointer

B. page table base register

C. page register

D. program counter

Program always deals with _____

A. logical address

B. Absolute address

C. Physical address

D. relative address

The page table contains _____

A. base address of each page in physical memory

B. page offset

C. page size

D. none of the mentioned

What is compaction?

A. a technique for overcoming internal fragmentation

B. a paging technique

C. a technique for overcoming external fragmentation

D. a technique for overcoming fatal error

Operating System maintains the page table for

A. each process

B. Each thread

C. Each instruction

D. Each address

The main memory accommodates _____

A. operating system

B. CPU

C. user processes

D. all of the mentioned

In contiguous memory allocation

A. each process is contained
in a single contiguous section
of memory

B. all processes are contained in a
single contiguous section of
memory

C. the memory space
is contiguous

D. none of the mentioned

When memory is divided into several fixed sized partitions, each partition may contain _____

A. exactly one process

B. at least one process

C. multiple processes
at once

D. none of the mentioned

In fixed size partition, the degree of multiprogramming is bounded by _____

A. the number of partitions

B. the CPU utilization

C. the memory size

D. all of the mentioned

The first fit, best fit and worst fit are strategies to select a _____

A. process from a queue to put in memory

B. processor to run the next process

C. free hole from a set of available holes

D. all of the mentioned

In internal fragmentation, memory is internal to a partition and _____

A. is being used

B. is not being used

C. is always used

D. none of the mentioned

_____ is generally faster than _____
and _____

- A. first fit, best fit,
worst fit

- B. best fit, first fit, worst fit

- C. worst fit, best fit,
first fit

- D. none of the mentioned

External fragmentation exists when?

A. enough total memory exists to satisfy a request but it is not contiguous

B. the total memory is insufficient to satisfy a request

C. a request cannot be satisfied even when the total memory is free

D. none of the mentioned

External fragmentation will not occur when?

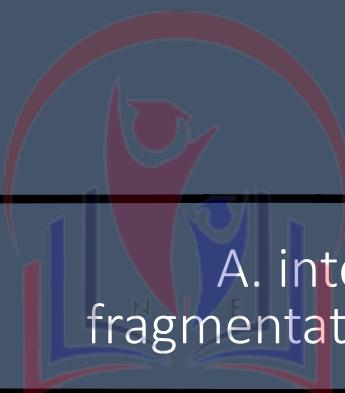
A. first fit is used

B. best fit is used

C. worst fit is used

D. no matter which algorithm
is used, it will always occur

When the memory allocated to a process is slightly larger than the process, then _____



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- A. internal fragmentation occurs
- B. external fragmentation occurs
- C. both internal and external fragmentation occurs
- D. neither internal nor external fragmentation occurs

Physical memory is broken into fixed-sized blocks called _____

A. frames

B. pages

C. backing store

D. none of the mentioned

Logical memory is broken into blocks of the same size called _____

A. frames

B. pages

C. backing store

D. none of the mentioned

Every address generated by the CPU is divided into two parts. They are _____

A. frame bit & page number

B. page number & page offset

C. page offset & frame bit

D. frame offset & page offset

The _____ table contains the base address of each page in physical memory.

A. Process

B. memory

C. page

D. frame

With paging there is no _____ fragmentation.



A. internal

B. external

C. either type of

D. none of the mentioned

Paging increases the _____ time.

A. waiting

B. execution

C. context – switch

D. all of the mentioned

Each entry in a translation lookaside buffer (TLB) consists of _____

A. key

B. value

C. bit value

D. constant

If a page number is not found in the TLB,
then it is known as a _____

A. TLB miss

B. Buffer miss

C. TLB hit

D. All of the mentioned

The percentage of times a page number is found in the TLB is known as _____



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A. miss ratio

B. hit ratio

C. miss percent

D. none of the mentioned

Memory protection in a paged environment is accomplished by _____

A. protection algorithm with each page

B. restricted access rights to users

C. restriction on page visibility

D. protection bit with each page

_____ is the concept in which a process is copied into the main memory from the secondary memory according to the requirement.

A. Paging

B. Demand paging

C. Segmentation

D. Swapping

Because of virtual memory, the memory can be shared among _____

A. processes

B. threads

C. instructions

D. none of the mentioned

In FIFO page replacement algorithm, when a page must be replaced _____

A. oldest page is chosen

B. newest page is chosen

C. random page is chosen

D. none of the mentioned

A process is thrashing if _____

A. it is spending more time
paging than executing

B. it is spending less time
paging than executing

C. page fault occurs

D. swapping can not take
place

The instruction being executed, must be in _____

A. physical memory

B. logical memory

C. physical & logical
memory

D. none of the mentioned

In virtual memory. the programmer _____ of overlays

A. has to take care

B. does not have to take care

C. all of the mentioned

D. none of the mentioned

A page fault occurs when?

A. a page gives inconsistent data

B. a page cannot be accessed due to its absence from memory

C. a page is invisible

D. all of the mentioned

When a page fault occurs, the state of the interrupted process is _____

A. disrupted

B. invalid

C. saved

D. none of the mentioned

When a process begins execution with no pages in memory?

A. process execution becomes impossible

B. a page fault occurs for every page brought into memory

C. process causes system crash

D. none of the mentioned

The aim of creating page replacement algorithms is to _____

A. replace pages faster

B. increase the page fault rate

C. decrease the page fault rate

D. to allocate multiple pages to processes

What is the Optimal page – replacement algorithm?

A. Replace the page that has not been used for a long time

B. Replace the page that has been used for a long time

C. Replace the page that will not be used for a long time

D. none of the mentioned

Optimal page – replacement algorithm is difficult to implement, because _____

A. it requires a lot of information

B. it requires future knowledge of the reference string

C. it is too complex

D. it is extremely expensive

Increasing the RAM of a computer typically improves performance because _____

A. Virtual memory increases

B. Larger RAMs are faster

C. Fewer page faults occur

D. None of the mentioned

The essential content(s) in each entry of a page table is/are _____

A. Virtual page number

B. Page frame number

C. Both virtual page number and page frame number

D. Access right information

What is the reason for using the LFU page replacement algorithm?

- A. an actively used page should have a large reference count
- B. a less used page has more chances to be used again
- C. it is extremely efficient and optimal
- D. all of the mentioned

What is the reason for using the MFU page replacement algorithm?

- A. an actively used page should have a large reference count
- B. a less used page has more chances to be used again
- C. it is extremely efficient and optimal
- D. all of the mentioned

The implementation of the LFU and the MFU algorithm is very uncommon because _____

A. they are too complicated

B. they are optimal

C. they are expensive

D. all of the mentioned

The maximum number of frames per process is defined by _____

- A. the amount of available physical memory
- B. operating System
- C. instruction set architecture
- D. none of the mentioned

To create a file _____

A. allocate the space in
file system

B. make an entry for new
file in directory

C. allocate the space in file system &
make an entry for new file in directory

D. none of the mentioned

By using the specific system call, we can

A. open the file

B. Read the file

C. write into the file

D. all of the mentioned

File type can be represented by

A. file name

B. file extension

C. file identifier

D. none of the mentioned

Mapping of file is managed by _____

A. file metadata

B. Page table

C. virtual memory

D. File system

Which one of the following explains the sequential file access method?

- A. random access according to the given byte number
- B. read bytes one at a time, in order
- C. read/write sequentially by record
- D. read/write randomly by record

What is raw disk?

A. disk without file system

B. empty disk

C. disk lacking logical file system

D. disk having file system

The data structure used for file directory
is called _____

A. mount table

B. Hash table

C. File table

D. Process table

The three major methods of allocating disk space that are in wide use are _____

A. contiguous

B. linked

C. indexed

D. All of the mentioned

In contiguous allocation

- A. each file must occupy a set of contiguous blocks on the disk
- B. each file is a linked list of disk blocks
- C. all the pointers to scattered blocks are placed together in one location
- D. none of the mentioned

In linked allocation

- A. each file must occupy a set of contiguous blocks on the disk
- B. each file is a linked list of disk blocks
- C. all the pointers to scattered blocks are placed together in one location
- D. none of the mentioned

In indexed allocation

- A. each file must occupy a set of contiguous blocks on the disk
- B. each file is a linked list of disk blocks
- C. all the pointers to scattered blocks are placed together in one location
- D. none of the mentioned

Contiguous allocation of a file is defined by _____

A. disk address of the first block & length

B. length & size of the block

C. size of the block

D. total size of the file

One difficulty of contiguous allocation is

A. finding space for a new file

B. inefficient

C. costly

D. time taking

_____ and _____ are the most common strategies used to select a free hole from the set of available holes.



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A. First fit, Best fit

B. Worst fit, First fit

C. Best fit, Worst fit

D. None of the mentioned

The first fit and best fit algorithms suffer from _____

A. internal fragmentation

B. external fragmentation

C. starvation

D. all of the mentioned