Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2021/2022

COURSE NAME	:	FUNDAMENTALS OF OPERATING SYSTEMS
COURSE CODE	:	DAT 10303
PROGRAMME CODE	:	DAT
EXAMINATION DATE	:	JANUARY / FEBRUARY 2022
DURATION	:	2 HOURS
INSTRUCTION	:	1. ANSWER ALL QUESTIONS
		2. THIS FINAL EXAMINATION IS AN **ONLINE** ASSESSMENT AND CONDUCTED VIA **CLOSE BOOK**

THIS QUESTION PAPER CONSISTS OF **THIRTY ONE (31)** PAGES

CHOOSE THE CORRECT ANSWER.

Q1 Internal fragmentation happens when the memory is split into mounted sized blocks. Whenever a method requests for the memory, the mounted sized block is allotted to the method. just in case the memory allotted to the method is somewhat larger than the memory requested, then the distinction between allotted and requested memory is that the Internal fragmentation.

Internal fragmentation problem will occur with _____ .

(A) fixed partitioning.

(B) buddy system.

(C) round robin scheduling

(D) virtual memory.

Q2

Request 70	A	128		256		512
Request 35	A	B	64	256		512
Request 80	A	B	64	C	128	512
Return A	128	B	64	C	128	512
Request 60	128	B	D	C	128	512
Return B	128	64	D	C	128	512
Return D	256			C	128	512
Return C	1024					

Choose the description of memory management technique that would best describe the above diagram.

(A) A memory allocation algorithm that divides the main memory into partitions, and the size of partitions can be different or equal.

(B) A memory allocation algorithm that makes use of splitting memory into halves to try to give a best fit.

(C) A memory allocation algorithm that is based on round robin scheduling.

(D) A memory allocation algorithm that divides the memory dynamically based on the size required.

Q3 Figure below shows some of the types of process scheduling algorithms.

1

Which of these statements is NOT the objective of CPU Scheduling?

(A) Minimize the amount of time it takes from when a request was submitted until the first response is produced.

(B) Minimize the amount of time taken to execute a particular process, i.e. The interval from time of submission of the process to the time of completion of the process (Wall clock time).

(C) Minimize the number of processes that complete their execution per time unit.

(D) Minimize the amount of time a process waiting in the ready queue.

Q4 Choose the description for Round Robin Scheduling algorithm?

(A) This scheduling algorithm is optimal if all the jobs/processes are available at the same time.

(B) To successfully implement it, the burst time/duration time of the processes should be known to the processor in advance.

(C) It's easy to understand and implement programmatically, using a Queue data structure, where a new process enters through the tail of the queue, and the scheduler selects process from the head of the queue.

(D) Once a process is executed for given time period that process is pre-emptied and other process executes for a given time period.

Q5

```
lrwxrwxrwx  1 diana  diana          8 Nov 21 15:57  test_cheater.log -> test.log
```

Above figure shows the details of a file called test_cheater.log where the file/directory type is indicated with a letter ***l***. What would be the best description for this file details?

(A) Any changes that are being made to the link file test_cheater.log will also be changed in file test.log, making it identical copy.

(B) Any changes that are being made to the link file test.log will also be changed in file test_cheater.log, making it identical copy.

(C) test_cheater.log is an indirect pointer to the file test.log, something like a shortcut in Windows.

(D) test.log is an indirect pointer to the file test_cheater.log, something like a shortcut in Windows.

Q6 This scheduling algorithm simply schedules the jobs according to their arrival time. The job which comes first in the ready queue will get the CPU first. The lesser the arrival time of the job, the sooner will the job get the CPU.

What is this scheduling algorithm called?

(A) First Come First Serve.

(B) Shortest Job First.

(C) First in Last Out.

(D) Longest Job First.

Q7 Advanced Package Tool, or APT, is a free software user interface that works with core libraries to handle the installation and removal of software on Debian, Ubuntu and other Linux distributions. APT simplifies the process of managing software on Unix-like computer systems by automating the retrieval, configuration and installation of software packages, either from precompiled files or by compiling source code.

What will the command **`sudo apt install mlocate`** do?

(A) Install sudo in UNIX terminal

(B) Install package mlocate in UNIX terminal.

(C) Install apt in UNIX terminal.

(D) Change the password for mlocate.

Q8 Which is NOT the disadvantages of the First Come First Serve scheduling algorithm?

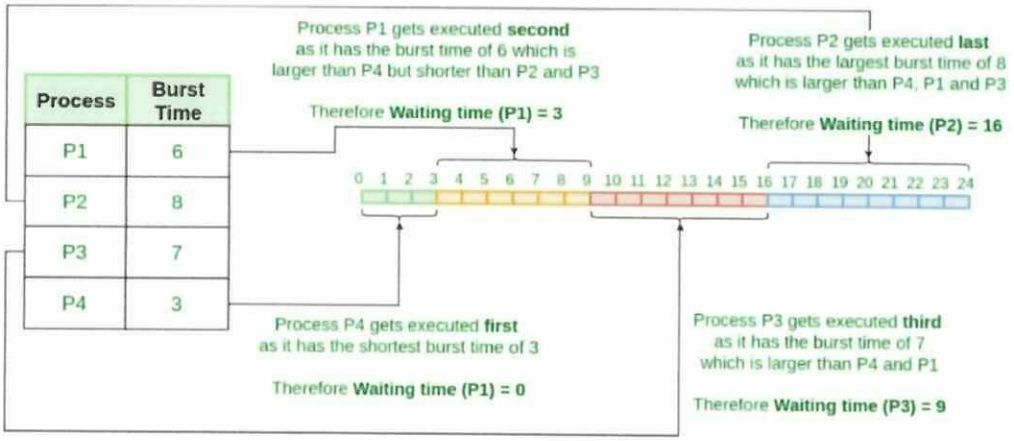
(A) Its algorithm is not complex as it just puts the process requests in a queue and executes it one by one.

(B) Eventually, every process will get to run.

(C) If a process is started, the CPU will execute the process until it ends.

(D) It is simple and easy to implement.

Q9



The diagram above would best describe which description of CPU scheduling algorithm?

(A) In this scheduling algorithm, each ready task runs turn by turn only in a cyclic queue for a limited time slice. This algorithm also offers starvation free execution of processes.

(B) This scheduling algorithm simply schedules the jobs according to their arrival time. The job which comes first in the ready queue will get the CPU first. The lesser the arrival time of the job, the sooner will the job get the CPU.

(C) This is an algorithm in which the process having the smallest execution time is chosen for the next execution and is significantly reduces the average waiting time for other processes awaiting execution.

(D) This is an algorithm for handling data structures where the last element is processed first, and the first element is processed last.

Q10

Process	Burst Time	Arrival Order
P_1	24	1
P_2	3	2
P_3	5	3

Gannt Chart for the schedule

The diagram above would best describe which CPU scheduling algorithm?

(A) Round Robin.

(B) First Come First Serve.

(C) Shortest Job First.

(D) First In First Out.

Q11

Process	Duration	Order	Arrival Time
P1	3	1	0
P2	4	2	0
P3	3	3	0

Suppose time quantum is 1 unit.

P1	P2	P3	P1	P2	P3	P1	P2	P3	P2

0 10

P1 waiting time : 4

P2 waiting time: 6

P3 waiting time: 6

The average waiting time(AWT) : (4+6+6)/3=5.33

The diagram above would best describe which description of CPU scheduling algorithm?

(A) In this scheduling algorithm, each ready task runs turn by turn only in a cyclic queue for a limited time slice. This algorithm also offers starvation free execution of processes.

(B) This scheduling algorithm simply schedules the jobs according to their arrival time. The job which comes first in the ready queue will get the CPU first. The lesser the arrival time of the job, the sooner will the job get the CPU.

(C) This is an algorithm in which the process having the smallest execution time is chosen for the next execution and is significantly reduces the average waiting time for other processes awaiting execution.

(D) In this algorithm, the first element that arrived is processed first and the newest/last element arrived is processed last.

Q12 Choose a sentence that is NOT a definition of a process.

(A) An instance of a program running on a computer.

(B) The entity that can be assigned to and executed on a processor.

(C) A unit of activity characterized by the execution of a sequence of instructions.

(D) A comprehensive, self-contained program that performs a particular function directly for the user.

Q13 Choose a statement that would NOT describe the Round Robin Scheduling algorithm?

(A) A round-robin scheduler generally employs time-sharing, giving each job a time slot or quantum.

(B) While performing a round-robin scheduling, a particular time quantum is allotted to different jobs.

(C) Each process gets a chance to reschedule after a particular quantum time.

(D) It sorts all the process according to the arrival time.

Q14 CPU Scheduling _____ .

(A) schedules the same process to be assigned to the CPU based on particular scheduling algorithms.

(B) is a process which allows more than one process to use the CPU while the execution of another process is on hold (in waiting state) due to unavailability of any resource like I/O etc., thereby making full use of CPU

(C) allows one process to use the CPU while another is waiting for I/O, thereby making full use of otherwise lost CPU cycles.

(D) is the activity of the process manager that handles the removal of the running process from the CPU and the deletion of another process on the basis of a particular strategy.

Q15 Which one of these statements is NOT the description for Pre-emptive Scheduling?

(A) The CPU is allocated to the process for a limited time.

(B) Process is only released when the processing is over.

(C) The current state of the program is saved and is resumed when the process is assigned to the CPU

(D) The CPU allocated time is taken back when its time is over.

Q16 Which is NOT the description for Non-Pre-emptive Scheduling?

(A) Once resources(CPU Cycle) are allocated to a process, the process holds it till it completes its burst time or switches to waiting state.

(B) If a process with long burst time is running CPU, then later coming process with less CPU burst time may starve.

(C) Flexible.

(D) Examples of non-preemptive scheduling are First Come First Serve and Shortest Job First.

Q17 Why does fixed partitioning suffer from internal fragmentation?

(A) Because the memory "holes" left between two partitions may be too small for another process to use.

(B) Because all the small holes are being combined into one larger hole.

(C) Because compaction is used,

(D) Because some processes may use less memory than the fixed partition size.

Q18 Why does dynamic partitioning suffer from external fragmentation?

(A) Because the memory "holes" left between two partitions may be too small for another process to use.

(B) Because all the small holes are being combined into one larger hole.

(C) Because compaction is used,

(D) Because some processes may use less memory than the fixed partition size.

Q19 Which is **FALSE** about Fixed Partitioning.

(A) Equal-size partitions.

(B) The operating system cannot swap a process out of a partition.

(C) Any process whose size is less than or equal to the partition size can be loaded into an available partition

(D) The number of partitions (non-overlapping) in RAM are fixed but size of each partition used may or may not be same.

Q20 Find the statement that is **TRUE** about memory management.

(A) Memory management determines how virtual memory is allocated among competing processes, deciding which gets memory, when they receive it, and how much they are allowed.

(B) Memory management is the process of controlling and coordinating computer memory, assigning portions called blocks to only one process to optimize overall system performance.

(C) In most memory management schemes; kernel occupies a fixed portion of main memory and the balance is shared by multiple processes.

(D) When memory is allocated it determines which memory locations will be assigned. It however does not track when memory is freed or unallocated and does not updates the status.

Q21 _____ scheduling is the only method that can be used on certain hardware platforms because it does not require the special hardware for example a timer that is needed for _____ scheduling.

(A) Memory, CPU

(B) Buddy System, CPU

(C) Pre-emptive, non-pre-emptive

(D) Non-pre-emptive, pre-emptive

Q22

PROCESS	BURST TIME
P1	21
P2	3
P3	6
P4	2

The above data is for an example of First Come First Serve scheduling algorithm, which shows 4 processes and its burst time. Supposed that the processes arrived in the order of P_1, P_2, P_3 and P_4. What is the waiting time for P_1?

(A) 30

(B) 24

(C) 21

(D) 0

Q23

PROCESS	BURST TIME
P1	21
P2	3
P3	6
P4	2

Calculate the average process waiting time for the above data if it uses the Shortest Job First scheduling algorithm.

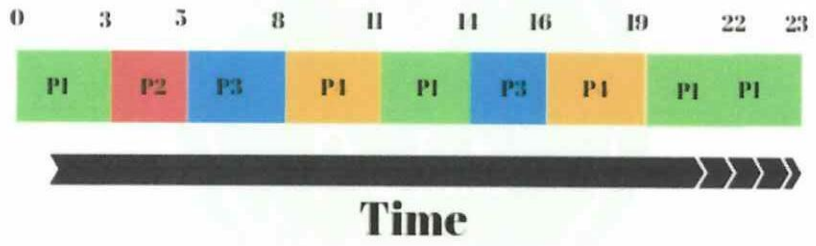
(A) 8

(B) 4.5

(C) 2.75

(D) 2.25

Q24



Process	Burst Time
P1	10
P2	2
P3	5
P4	6

The figure above is the order in which the CPU processes the process are (Gantt Chart) using the Round Robin scheduling algorithm and the data of the burst time of the 4 processes. Determine the time quantum use for this algorithm.

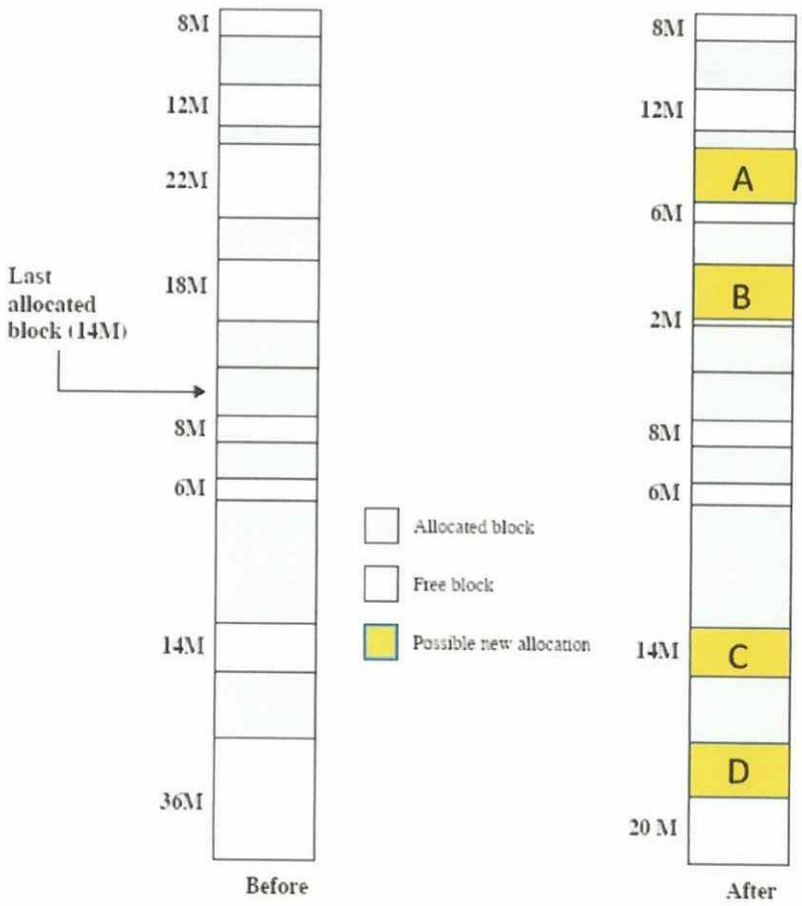
(A) 1

(B) 2

(C) 3

(D) 4

Q25



Above figure is an example of memory configuration after several placement and swapping-out operations. The last allocated block shown was 14M. If a16-Mbyte allocation request comes in, where would the process be allocated in the memory, using the **Next-Fit** memory allocation algorithm?

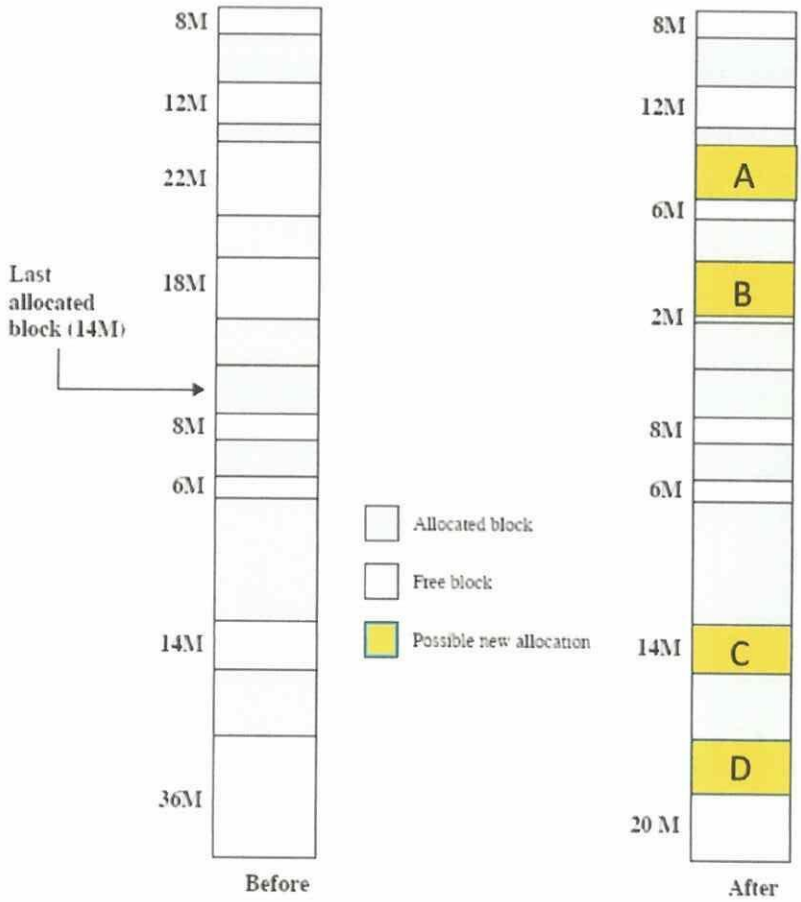
(A) A

(B) B

(C) C

(D) D

Q26



The last allocated block shown in the above memory configuration was 14M. If a16-Mbyte allocation request comes in, where would the process be allocated in the memory, using the **Best-Fit** memory allocation algorithm?

(A) A

(B) B

(C) C

(D) D

Q27 What is the UNIX command to sort the content of a file called `access_history.log` and then delete any duplicating lines and finally display the output to the computer screen?

(A) `sort | uniq access_history.txt`

(B) `sort uniq access_history.txt`

(C) `sort | access_history.txt | uniq`

(D) `sort access_history.txt | uniq`

Q28 What is the command to change test2 file permission to where the owner of the file is allowed to read/write/execute, people from the same group as the owner are allowed to read the file only and the general public are only allowed to execute the file, as per shown in the sample figure shown?

from

A
```
---------- 1 diana nasrin 53 Oct 25 20:34 test2
```

to

B
```
-rwxr----x 1 diana nasrin 53 Oct 25 20:34 test2
```

(A) `chmod test2 714`

(B) `chmod test2 741`

(C) `chmod 741 test2`

(D) `chmod 714 test2`

Q29 Based on the figure shown, who is the owner of file `test3`?

```
-rw-rw-r--  1 zaki    accounting     53 Oct 25 20:34  test1
-rwxr----x  1 diana   nasrin         53 Oct 25 20:34  test2
-rw----rwx  1 daniyal research       53 Oct 25 20:34  test3
```

(A) diana

(B) nasrin

(C) daniyal

(D) research

Q30 Based on the figure shown, which file that could not be access at all by user from the same group?

```
-rw-rw-r--  1 zaki    accounting     53 Oct 25 20:34  test1
-rwxr----x  1 diana   nasrin         53 Oct 25 20:34  test2
-rw----rwx  1 daniyal research       53 Oct 25 20:34  test3
```

(A) test1

(B) test2

(C) test3

(D) None of the above.

Q31 Which one of these is NOT the benefit of cloud computing systems.

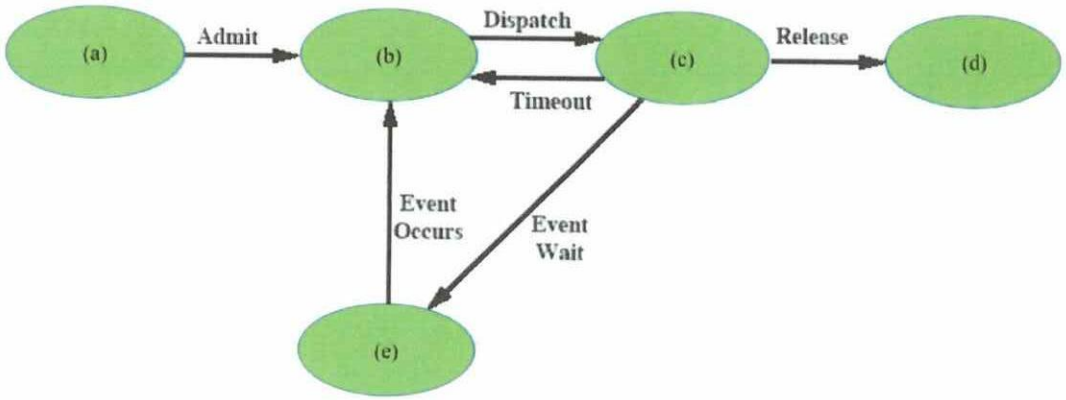
(A) User can access the desired service from anywhere in the world, using any device with any (supported) system.

(B) The whole infrastructure is owned by the user and requires capital outlay by the user.

(C) User needs can be tailored to available resources as demand dictates – cost benefit is obvious.

(D) the user usually does not need to do much deployment or customization, as the provided services are easy to adopt and ready-to-use.

Q32 Identify the correct state for the Five State Process model diagram below.



(A) (a) New (b) Ready (c) Running (d) Exit (e) Suspend.

(B) (a) New (b) Ready (c) Running (d) Not Running (e) Blocked.

(C) (a) New (b) Not Running (c) Running (d) Exit (e) Blocked.

(D) (a) New (b) Ready (c) Running (d) Exit (e) Blocked.

Q33 Which of the statement below is **FALSE** about memory hierarchy?

(A) Greater capacity, slower access speed.

(B) Greater capacity, smaller cost per bit.

(C) Greater capacity, faster access speed.

(D) Faster access time, greater cost per bit.

Q34 Which statement is a desirable property of files?

(A) Files can be organized into hierarchical or more complex structure to reflect the relationships among files.

(B) Files are stored on disk or other secondary storage and do disappear when a user logs off.

(C) Files have names and can have associated access permissions that do permit controlled sharing between processes.

(D) A file can have an internal structure that is inconvenient for particular applications.

Q35 File system provides the resource abstractions typically associated with _____.

(A) virtual memory

(B) primary storage

(C) main memory

(D) secondary storage

Q36 Which statement is NOT the objective of file management system?

(A) To provide I/O support for multiple users, in the case of multiple-user systems.

(B) To meet the data management needs and requirements of the hardware.

(C) To provide I/O support for a variety of storage device types.

(D) To provide a standardized set of I/O interface routines to user processes.

Q37 What is the disadvantage of First-Fit allocation algorithm?

(A) Remaining unused memory areas left after allocation become waste if request is too small.

(B) It searches as little as possible.

(C) It finishes after finding the first suitable free partition.

(D) It allocates the first free partition or hole large enough which can accommodate the process.

Q38 _____ is an explicit relationship that exist among elements of data.

(A) Record

(B) File

(C) Database

(D) Fields

Q39 Which statement is **FALSE** about database?

(A) The database itself consists of one type of files.

(B) Usually, there is a separate database management system that is independent of the operating system.

(C) A collection of related data.

(D) It may make use of some file management programs.

Q40 A directory system should support a number of operations excluding:

(A) Remove an entry.

(B) Added an entry.

(C) Manage memory.

(D) Update directory.

Q41 Which statement is **FALSE** about simultaneous file access?

(A) Memory management may lock entire file when it is to be updated.

(B) When access is granted to append or update a file to more than one user, the operating system or file management system must enforce discipline.

(C) A brute-force approach is to allow a user to lock the entire file when it is to be updated.

(D) Issues of mutual exclusion and deadlock must be addressed in designing the shared access capability.

Q42 The disadvantage of this algorithm is that it is often become inefficient in terms of memory utilization. As all requests must be rounded up to a power of 2, a 35KB process is allocated to 64KB, thus wasting extra 29KB causing internal fragmentation.

What is the memory allocation algorithm that would describe the above statement?

(A) First-Fit.

(B) Next-Fit.

(C) Best-Fit.

(D) Buddy system.

Q43 _____ memory allocation algorithm begins as first fit to find a free partition. When called next time it starts searching from where it left off, not from the beginning.

(A) First-Fit.

(B) Next-Fit.

(C) Best-Fit.

(D) Buddy system.

Q44 Which statement is **TRUE** about process and memory?

(A) All memory references within a process are logical addresses that are dynamically translated into virtual addresses at run time.

(B) A process may be broken up into a number of pieces (pages or segments) and these pieces need to be contiguously located in main memory during execution.

(C) In an execution of a process, operating system brings into main memory a few pieces of the program.

(D) A process may be swapped in and out of main memory occupying different regions of main memory at different times during the course of execution.

Q45 The address of a storage location in main memory is called _____.

(A) real address.

(B) address space.

(C) virtual address space.

(D) virtual address.

Q46 Choose the statement that is **TRUE** about segmentation memory management schemes.

(A) Process is divided into the variable size segments and loaded to the logical memory address space.

(B) The logical address space is the collection of same size segments.

(C) It causes internal fragmentation.

(D) Each segment has its name but not its length.

Q47 Example(s) of memory management schemes is/are:

(A) Physical addresses.

(B) Logical addresses.

(C) None of the above.

(D) All the above.

Q48 Virtual memory is _____ .

(A) a storage allocation scheme in which main memory can be addressed as though it were part of secondary memory.

(B) the address assign to a location in virtual memory to allow that location to be addressed as though it were part of main memory.

(C) the virtual storage assigned to a process.

(D) mapping memory addresses used by a program, called virtual addresses, into physical addresses in computer memory.

Q49 Which of these statements is not the main problems of memory?

(A) System spends most of its time swapping pieces rather than executing instructions.

(B) RAM used to be really expensive and need to be used very efficiently as it is needed to be able to run program even if you do not have enough memory.

(C) When you run multiple programs together and you quit some of them you leave these chunks of memory that are unavailable.

(D) Programs writing over each other.

Q50 Example(s) of memory management schemes is/are:

(A) Segmentation.

(B) Paging.

(C) Segmentation & Paging.

(D) Answers not available.

Q51 These are the events that will occur once the OS decides to create a new process EXCEPT:

(A) Initializes process control block.

(B) Generate an interrupt alert to the OS.

(C) Sets up appropriate linkages.

(D) Creates or expand other data structures.

Q52 These are ways that a process can indicate completion EXCEPT:

(A) A fault or error.

(B) A user actions.

(C) Parent process terminating.

(D) Spawned by existing process.

Q53 _____ is a state in which the system spends most of its time swapping pieces rather than executing instructions and to avoid this, the operating system tries to guess which pieces are least likely to be used in the near future. The guess is based on recent history

(A) Randomizing

(B) Thrashing

(C) Virtual Memory

(D) Principle of Locality

Q54 Which is **FALSE** about paging memory management schemes?

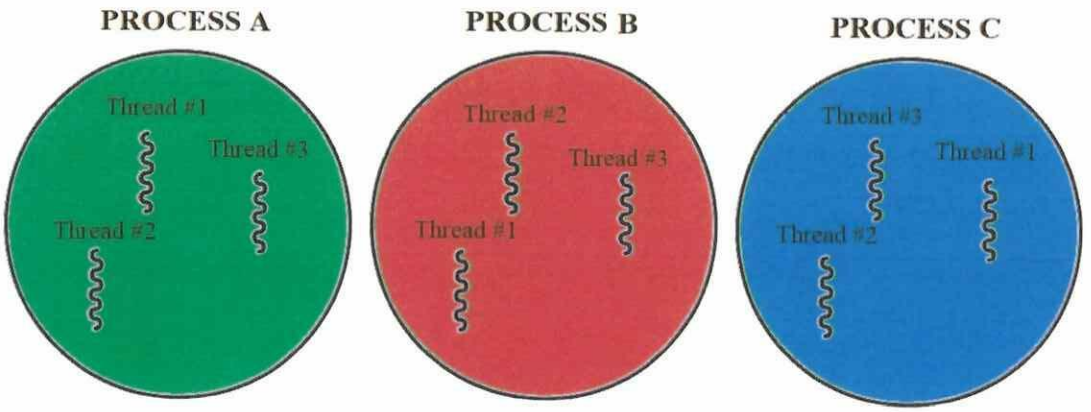
(A) Physical and logical memory spaces are divided into different variable-sized blocks.

(B) Each process has its own page table.

(C) Each page table entry contains the frame number of the corresponding page in main memory.

(D) It causes internal fragmentation.

Q55



Describe the conclusion that could be drawn from the above figure of PROCESS A, PROCESS B and PROCESS C on the relationships between thread and process.

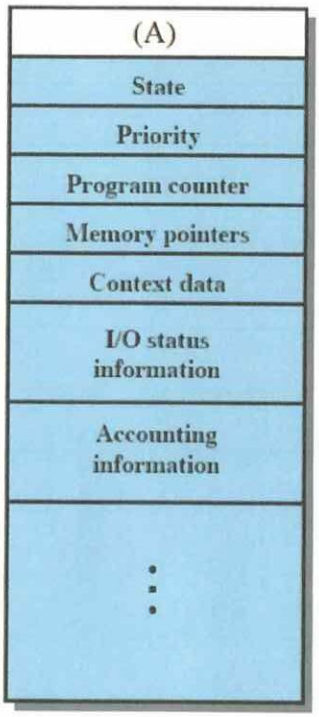
(A) A process is an executing instance of an application, and a thread is a path of execution outside a process.

(B) Threads within the same process share the same address space, whereas different processes do not.

(C) A thread of execution is the smallest sequence of programmed instructions that can be managed independently by scheduler and each thread belongs to more than one process.

(D) A process can have multiple threads, all executing at different time.

Q56 PROCESS CONTROL BLOCK



Identify element (A) that is missing from this Process Control Block.

(A) Register.

(B) Cache.

(C) Record.

(D) Identifier.

Q57 Process spawning can be defined as

(A) a feature of an operating system that enables a computer to be able to compensate shortages of physical memory by transferring pages of data from random access memory to disk storage.

(B) a memory management scheme by which a computer stores and retrieves data from secondary storage for use in main memory.

(C) updating the process control block of the process that is currently in the Running state

(D) a technique in which the operating system creates a child process by the request of another process.

Q58

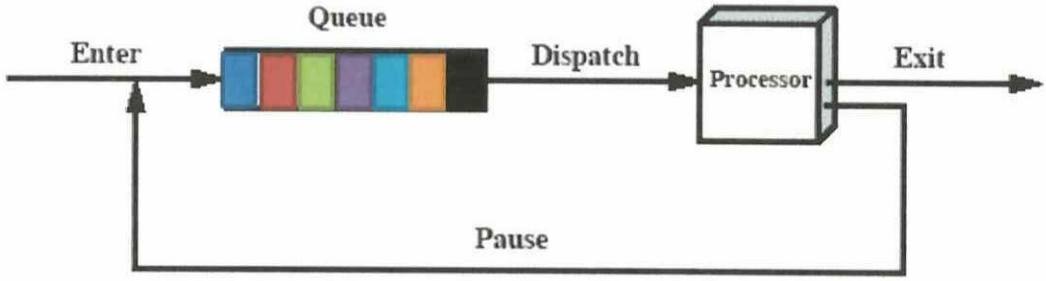


Figure above shows a queueing diagram where a small program called Dispatcher is being used. What is the function of Dispatcher?

(A) Listing the sequence of instructions that are executed.

(B) Let a running process create another process.

(C) Switches the processor from one process to another.

(D) Builds a data structure to manage the process.

Q59 One of the processor's functions is to exchange data with memory and it typically will makes use of _____ internal registers.

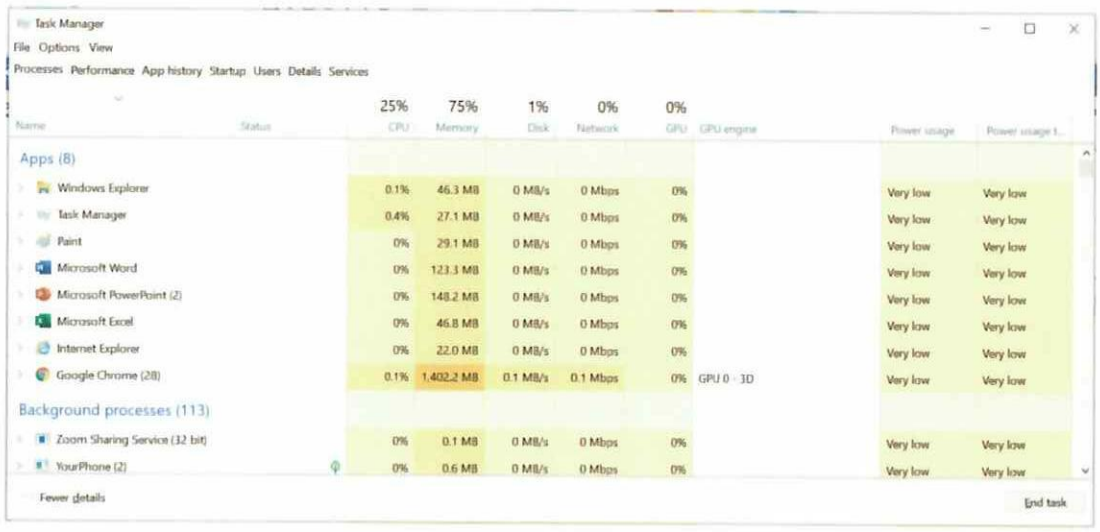
(A) four

(B) three

(C) two

(D) one

Q60



Based on the above windows Task Manager, what is the process that utilize more processor time than other processes?

(A) Windows Explorer.

(B) Google Chrome.

(C) Task Manager.

(D) Microsoft Powerpoint.

Q61

Based on the above windows Task Manager, what is the application that uses the most main memory?

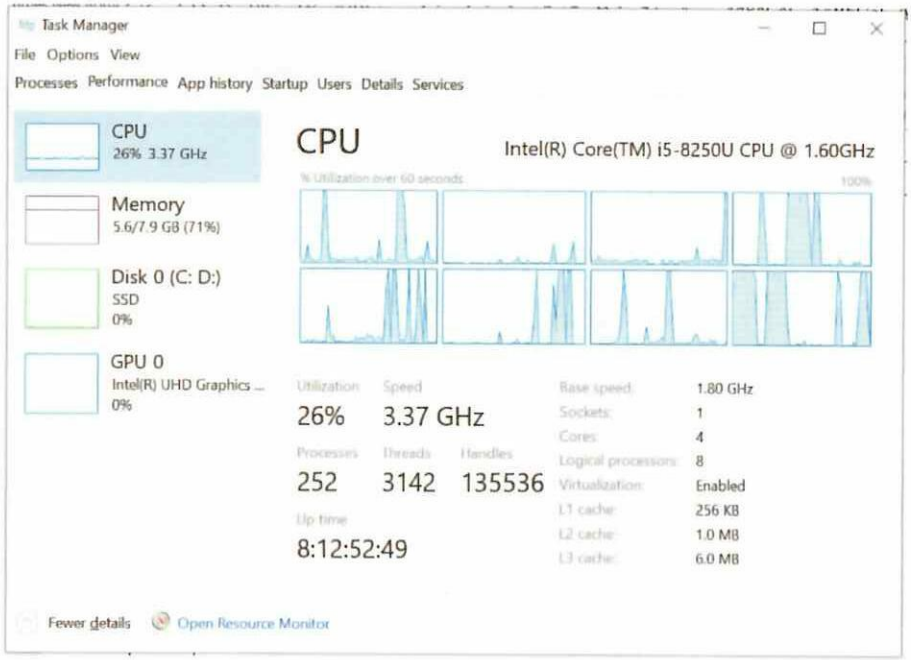
(A) Windows Explorer.

(B) Google Chrome.

(C) Task Manager.

(D) Microsoft Powerpoint.

Q62



Based on the above windows Task Manager, what is the percentage of CPU utilization for this computer?

(A) 252

(B) 5.6

(C) 3.37

(D) 26

Q63 Processors controls the operation of the computer and performs its _____ processing functions.

(A) process

(B) data

(C) memory

(D) applications

Q64 Main memory consists of a set of _____ defined by sequentially numbers addresses containing either data or instructions.

(A) locations

(B) instructions

(C) data

(D) processes

Q65 Which of these statements is **TRUE** about I/O modules in computer basic elements?

(A) It transfers data from external devices to processor and memory, and vice versa.

(B) It contains external buffers.

(C) It contains internal buffers for data exchange.

(D) It moves data between the computer and the internal environment.

Q66 A computer's basic elements are Processor, Main Memory, I/O Modules and _____.

(A) External Environment.

(B) Terminals.

(C) Hardware.

(D) communication among processors, main memory, and I/O modules.

Q67 Which of these statements is **FALSE** about Basic Instruction Cycle?

(A) Instruction execution may involve several operations and depends on the nature of the instruction.

(B) The processing required for a single instruction is called an instruction cycle.

(C) It consists of two elements which are referred to as the not-running stage and the running stage.

(D) Program execution halts only if the processor is turned off or some sort of unrecoverable error occurs.

Q68 Which of these statements is **FALSE** about Interrupts?

(A) Virtually all computers provide a mechanism by which other modules (I/O, memory) may interrupt the normal sequencing of the processor.

(B) Interrupts are provided primarily as a way to improve processor utilization.

(C) Interrupts are provided because most I/O devices are faster than the processor.

(D) Interrupts are provided because processor must pause to wait for device.

Q69 Common classes of Interrupts are

(A) Program, Timer, I/O, Hardware Failure.

(B) Memory, Timer, I/O, Hardware Failure

(C) Program, Timer, I/O, Software Failure.

(D) Memory, Timer, I/O, Software Failure.

Q70 I/O Interrupt will be generated by

(A) an I/O Controller, to signal normal completion of an operation or to signal a variety of error condition.

(B) a timer within the processor.

(C) a failure, such as power failure or memory parity error.

(D) some condition that occurs as a result of an instruction execution.

Q71 Which of these is NOT a characteristic of secondary memory?

(A) Auxiliary memory

(B) External

(C) Volatile

(D) Used to store program and data files

Q72 Determine which of these statements is NOT an objective of operating system.

(A) An operating system makes a computer more convenient to use.

(B) An operating system allows the computer system resources to be used in an efficient manner.

(C) An operating system should be constructed in such a way as to permit the effective development, testing, and introduction of new system functions permittable without interfering with its service.

(D) An operating system should manage computer hardware and its external environment.

Q73 Which of these is NOT the services provided by the Operating System?

(A) Controlled access to files.

(B) Program counter.

(C) Accounting.

(D) Error detection and response.

Q74 What are the UNIX commands that will finds all lines in the file *final_exam.txt* that contain the string *"lulus"* but do not contain the string *"meniru"* and display the output of the search to the computer screen?

(A) `cat final_exam.txt | grep "lulus" | grep -v "meniru"`

(B) `cat > final_exam.txt | grep "lulus" | grep -v "meniru"`

(C) `cat >> final_exam.txt | grep "lulus" | grep -v "meniru"`

(D) `cat | final_exam.txt | grep "lulus" | grep -v "meniru"`

Q75 What are the UNIX commands that will finds all lines in the file *final_exam* that contain the string *"meniru"* but do not contain the string *"gagal"* and save the output of the search to another existing file?

(A) `cat final_exam | grep "meniru" | grep -v "gagal" > gagal`

(B) `cat final_exam | grep "meniru" | grep -v "gagal" >> final_exam`

(C) `cat final_exam | grep "meniru" | grep -v "gagal" > final_exam`

(D) `cat final_exam | grep "meniru" | grep -v "gagal" >> gagal`

Q76 The output from programs is usually written to the screen, while their input usually comes from the keyboard (if no file arguments are given). What is the UNIX command to display the input "Peperiksaan Akhir" that user keyin from the keyboard to the computer screen?

(A) `cat Peperiksaan Akhir`

(B) `echo Peperiksaan Akhir`

(C) `echo Peperiksaan Akhir > screen`

(D) `cat Peperiksaan Akhir > screen`

Q77 What is the UNIX command example if we want to append the output of the echo command to a file?

(A) `echo nama_pelajar < gagal_DAT10303`

(B) `echo nama_pelajar > gagal_DAT10303`

(C) `echo nama_pelajar >> gagal_DAT10303`

(D) `echo >> gagal_DAT10303`

Q78 What is the UNIX command to show all processes running on the machine (not just the processes in your current shell)?

(A) `ps`

(B) `ps -fae`

(C) `ps -fea`

(D) `ps -9`

Q79

```
 PID TTY          TIME CMD
2341 pts/0    00:00:00 bash
3266 pts/0    00:00:00 nano
3267 pts/0    00:00:00 vi
3284 pts/0    00:00:00 sl
3288 pts/0    00:00:00 ps
```

Based on the above figure on the current running processes in a terminal, what is the UNIX command if the user want to force process nano to terminate abruptly?

(A) `kill -9 nano`

(B) `kill nano`

(C) `kill 3266`

(D) `kill -9 3266`

Q80 What will the UNIX command **`chmod 600 private.txt`** do?

(A) sets the permissions on file private.txt to **`r--------`**

(B) sets the permissions on file private.txt to **`-w-------`**

(C) sets the permissions on file private.txt to **`r-x------`**

(D) sets the permissions on file private.txt to **`rw-------`**

Q81

```
/usr/bin/mkdir
```

What is the UNIX command that will produce the above figure on the screen, where it will show the user where an application program or system utility is stored on disk?

(A) `locate mkdir`

(B) `which mkdir`

(C) `find mkdir`

(D) `info mkdir`

Q82 Which of these statements is NOT the reason of why operating system needs to evolve?

(A) Offering of new services.

(B) Fixes of its design and methodology.

(C) Multi-programmed Batch Systems.

(D) New types of hardware.

Q83 An operating system can be defined as

(A) a software that exploits the hardware resources of one or more processors to provide a set of services to system users.

(B) a system software that manages computer hardware only and provides common services for computer programs and applications.

(C) a hardware resources that allows you to communicate with the computer without knowing how to speak the computer's language.

(D) a process spawning that communicates with the hardware and allows other programs to run.

Q84 What is the UNIX command that searches all text files in the current directory for lines that do not contain any form of the word hello?

(A) `grep hello *.txt`

(B) `grep -vi hello *.txt`

(C) `grep -vi hello | *.txt`

(D) `grep | -vi hello *.txt`

Q85 What is the UNIX command to sort the combination of data in files seksyen1 and seksyen2 and stored the output in another file called dat10303?

(A) `sort seksyen1 seksyen2 > dat10303`

(B) `sort seksyen1 | sort seksyen2 > dat10303`

(C) `sort dat10303 seksyen1 seksyen2`

(D) `sort seksyen1 > dat10303 | sort seksyen2 > dat10303`

Q86 Every file or directory on a UNIX system has three types of permissions, describing what operations can be performed on it by various categories of users. The three categories of user by sequence are:

(A) user/owner, group and others.

(B) owner, others and group.

(C) owner, user and others.

(D) user, owner and general public.

Q87 File and directory permissions can only be modified by their owners, or by the superuser (root), by using the _____ system utility UNIX command.

(A) `chgrp`

(B) `chown`

(C) `sudo`

(D) `chmod`

Q88 What is the function of **`pwd`** UNIX command?

(A) Change the user account passwords.

(B) Reports information on current running processes, outputting to standard output.

(C) Displays the full absolute path to your current location in the filesystem.

(D) Print your current working directory a file.

Q89 What will the UNIX command `ls -a` do?

(A) Display a longer listing of directory content with date, time and permissions.

(B) List all the hidden files/directories as well as the normal ones to the screen.

(C) List only the directories and their files.

(D) Put a special character behind each filename to indicate the type of the file.

Q90 What is the UNIX command that is used to give a new name to a file (rename)?

(A) `rm`

(B) `rname`

(C) `mv`

(D) `cat`

Q91 What is the UNIX to copy multiple files simultaneously into another directory? For example, copy the files named `main.c, demo.h` and `lib.c` into a directory named `backup` that exist in the same working directory.

(A) `cp main.c demo.h libc. > backup`

(B) `cp main.c demo.h libc. /backup`

(C) `cp main.c | demo.h | lib.c backup`

(D) `cp main.c demo.h lib.c backup`

Q92 What is the UNIX command to copy a file from your current directory into another directory called /temp?

(A) `cp filename /temp`

(B) `cp /temp/filename`

(C) `cp filename \temp`

(D) `cp \temp\filename`

Q93 What is the UNIX command to create a symbolic link named my_link.txt to a file named my_file.txt

(A) `ln -a -s my_file.txt my_link.txt`

(B) `ln s my_file.txt my_link.txt`

(C) `ln my_file.txt my_link.txt`

(D) `ln -s my_file.txt my_link.txt`

Q94 Which is NOT the advantages of the First Come First Serve scheduling algorithm?

(A) Its algorithm does not include any complex logic.

(B) There is no option for pre-emption of a process.

(C) Eventually, every process will get to run.

(D) It puts the process requests in a queue and executes it one by one.

Q95 What do we want to achieve from CPU Scheduling?

(A) Increase the time interval from time of submission of the process to the time of completion of the process.

(B) Increase the amount of time a process waiting in the ready queue.

(C) Increase the amount of time it takes from when a request was submitted until the first response is produced.

(D) Increase the number of processes that complete their execution per time unit.

Q96 Which is **FALSE** about the First-Fit memory allocation algorithm?

(A) Scans from memory last placement location.

(B) Simplest technique.

(C) Fastest.

(D) Finds the first big enough block from the beginning of memory.

Q97 Which is **FALSE** about memory management requirement on sharing?

(A) Processes that are cooperating on some task may need to share access to the same data structure.

(B) Any protection mechanism must have the flexibility to allow several processes to access the same portion of main memory.

(C) Allow several processes to access the same portion of memory.

(D) Better to allow each process access to their own separate copy of the program rather than have the same copy of the program.

Q98 Which of the following is the extension of Notepad?

(A) .txt

(B) .xlsx

(C) .pptx

(D) .bmp

Q99 Which of the following is NOT an application software?

(A) Windows 7

(B) WordPad

(C) Photoshop

(D) MS-excel

Q100 Why does system administrator like users to use vi text editor?

(A) Because it is a simple and easy to use.

(B) Because is uses very few system resources.

(C) Because its easier for user to write script in it.

(D) Because it has a user-friendly interface.

-END OF QUESTIONS -