OPERATING SYSTEMS ASSINGMENT

GROUP 5

CHAPTER ONE

1) The one program that is always running on a computer is_____.
   A. Operating system
   B. Kernel
   C. Antivirus program
   D. daemon process

2) Computer systems can be divided into four components.
   A. Hardware, Operating system, application programs and users
   B. Users, computer room, server racks and mouse
   C. Hardware, internet, PC and google
   D. Operating Systems, application programs, users and internet

3) _____ is a program for managing computer hardware.
   A. Operating System
   B. Microsoft word
   C. Telnet
   D. VNC

4) Moore's law predicted that the number of transistors on an integrated circuit will double every _____.
   A. 18 months
   B. 20 months
   C. 14 months
   D. 17 months

5) From system view, operating systems can be thought as.
   A. Resource allocator and internet management
   B. Resource allocator and antivirus
   C. Antivirus and Control program
   D. Resource allocator and Control program

6) Operating System designed for workers who sit at workstation lay emphasis on …….. and ……
   A. Resource allocation and Ergonomics
   B. Ease of Use, Scheduling
   C. Resource utilization, individual usability
   D. Resource allocator and control program

7) There _____ modes of operation in multiprocessing system.
   A. 2 modes
   B. 1 mode
   C. 4 modes
   D. 8 modes

8) The context of execution of a program is known as

A. Instance C. Context switch
B. Process D. scheduling

9) A _____ is a software generated interrupt.
A. Trap C. Sleep
B. Block D. SIGINT

10) ……. Is the intial program pre written on the hardware that runs when the computer is turned on.
A. Firmware C. Bootloader
B. Bootstrap D. Operating System

CHAPTER TWO

11) Arrange the following in the correct order from bottom-up of the logical computer hierarchy
A. Hardware=>Operating System=>System Programs=>Application programs=>
B. Operating System=>System Programs=>Application programs=> Hardware
C. Hardware=>Operating System=> Application programs =>System Programs
D. Application programs=> Hardware=>Operating System=> Hardware
E. System Programs=>Application programs=> Hardware=> Operating System

12) Each user of computer system that uses computer services has at least
A. 1program B. 2programs
C. 3programs D. 4programs
E. 5programs
Answer A

13) Environment in which programs of computer system are executed is:
A. Operating system B. Clustered system
C. Nodes D. Both A and B
E. GUI

14) Logical extension of multiprogramming operating system is
A. Time sharing B. Multi-tasking
C. Single programing D. Both A and B
E. Tasking

15) System resources of computer system can be utilized better in
A. Single program environment B. Dual program environment
C. Core environment D. Multi program environment
E. Kernel environment

16) The main user interface in Apple Macintosh OS is known as

A. Aqua user interface
B. Aquarium user interface
C. Mach user interface
D. Apple interface
E. Communicating interface

17) Multiprogramming of computer system increases

A. Memory
B. Storage
C. CPU utilization
D. Cost
E. Money

18) All the following are types of System Calls except

A. Process control
B. Communications
C. Protection
D. Operating system
E. File manipulation

19) ..... is the Basic unit of CPU Utilization.

A. Process
B. Utilization
C. Threads
D. File system

20) .....is the process of exchanging information or resources with other processes or computers over a network.

A. Communication
B. File system
C. Accounting
D. Error detection
E. Sharing

CHAPTER THREE

21) Which of the following is not a process state

A. Ready state
C. Running state
B. Blocked state
D. None of the above

22) Processor is faster than I/O so all processes could be waiting for I/O

A. True

B. False

23) File tables provide information about all these except

A. The location of files
C. Files current status
B. The existence of file
D. None of the above

24) Various flags, signals, and messages may be associated with communication between two independent processes

A. True

B. False

25) The processes in most systems can execute concurrently, and they may be created and deleted dynamically

A. True

B. False

26) Information of the amount of CPU and real time used, time limits, account numbers, job or process numbers is ……

A. Process Information C. I/O Status Information
B. Status information D. Accounting Information

27) …….is one that spends more of its time doing I/O than it spends doing computations.

A. I/O Status Information C. I/O bound Proces
B. I/O Process Control D. I/O Utility

28) Information of the list of I/O devices allocated to the process, a list of open files

A. Process Information C. I/O Status Information
B. Status information D. Accounting Information

29) …….generates I/O requests infrequently, using more of its time doing computations

A. I/O Status Information C. I/O Bound Proces
B. CPU Bound Process D. I/O Utility

30) Context Switch involves two activities which are?

A. Process change and Task allocator C. State save and State Process
B. State Change and State Process D. State Save and State Recover

CHAPTER FOUR

31) Which one of the following is not shared by threads?

A. program counter C. stack
B. program and stack D. register set
E. Thread ID

32) If one thread opens a file with read privileges, then

A. Other threads in the another process can also read from that file
B. Other threads in the same process can also read from that file
C. Thread in the same process cannot read from that file
D. Thread in the same process and other process can read from that file
E. Other thread in the same process cannot read from that file

33) The time required to create a new thread in an existing process is

A. Approximately the same as time the time required to create new process
B. Less than the time required to create a new process
C. Equal to the time required to create a new process
D. Greater or less than time required to create new process
E. Greater than the time required to create a new process

34) When the event for which a thread is blocked occurs,

A. Thread moves to the ready queue
B. Thread remains blocked
C. Threads are not blocked in anyway
D. A new thread is provided
E. Thread completes

35) The jacketing technique is used to

A. Communicate between threads
B. Switch between threads
C. Create a new thread
D. Terminate a thread
E. Convert a blocking system call into non-blocking system call

36) Termination of the process terminates

A. First thread of the process
B. first two threads of the process
C. All threads within the process
D. No thread within the process

37) Which one of the following is not a valid state of a thread?

A. running
B. ready
C. parsing
D. blocked

38) The register context and stacks of a thread are deallocated when the thread

A. terminates
B. unblocks
C. blocks
D. spawns

39) Kernel mode of operating system runs when mode bit is

a) 1
b) 0
c) x
d) undefined
e) -1

40) 14. Shortest Job First executes first the job

a) with the least processor needs
b) that first entered the queue
c) that has been in the queue for the longest
d) that last entered the queue
e) that first entered running state

CHAPTER FIVE

41) A process that can affect or be affected by another process executing in the system is called
   A. Synchronized process
   B. Modifiable process
   C. Cooperating process
   D. Kernel process
   E. User process

42) Ensuring that only one process access and modifies the value/content of the variable counter is a way of curbing
   a. Synchronization processes
   b. Deadlock
   c. Lock Situation
   d. Race Condition
   e. Resource contention

43) The segment of the code of a process which when executing, no other process is supposed to execute its critical section is referred to as
   a. Critical section
   b. Entry section
   c. Remainder section
   d. Exit section
   e. Valuable section

44) Each process must request permission to enter into its
   a. Critical section
   b. Entry section
   c. Remainder section
   d. Exit section
   e. Valuable section

45) Protecting critical regions through the use of locks is known as
   a. Critical region safety

b. Locking
c. Progress
d. Bounding wait
e. Race condition

46) The type of mutex lock that requires that any process wanting to execute its critical section needs to continuously loop to call the Acquire() function is called the
a. Acquire lock
b. Spinlock
c. Process lock
d. Release lock
e. Function lock

47) A Semaphore is accessed through only two standard atomic operations:
a. Acquire() and Release()
b. Call() and Wait()
c. Acquire() and Wait()
d. Call() and Release()
e. Acquire() and Call()

48) The situation whereby two or more processes are waiting indefinitely for an event that can be caused by one of the waiting processes is known as
a. Event lock
b. Self-initialization
c. Deadlock
d. Race condition
e. Lock condition

49) A situation whereby processes wait indefinitely within the semaphore is referred to as
a. Starvation
b. Semaphore lock
c. Greedy starvation
d. Semaphore starvation
e. Starvation lock

50) A sequence of memory read-write operations that are atomic is known as

a. Memory transaction
b. Memory atomicity
c. Memory recursion
d. Race condition
e. Starvation

CHAPTER SIX

51) The time taken for a dispatcher to stop one process from running and start running another is known as……..

A. Dispatch Time C. Dispatch Burst
B. Dispatch Latency D. Time To Live(TTL)

52) The number of processes that are completed per unit time is known as…

A. Completed tasks C. Throughput
B. Finished process D. Content

53) The sum of the periods of the idle state, ready state, running state, etc is known as….

A. Burst time C. Throughput
B. Time To Live D. Turnaround time

For questions 54-58, use the following scheduling algorithms in answering them

A. Round-Robin
B. First Come First Served Scheduling
C. Priority Scheduling
D. Multi Level Queue
E. Shortest Job First Scheduling

54) The algorithm which is associates with each process the length of the process's next CPU burst and selects the process with the smallest CPU burst is ……

55) The algorithm which is associated with the allocation of the CPU to the process which is comes first is …….

56) An SJF algorithm where the priority (p) is the inverse of the (predicted) next CPU burst is ……..

57) A type of FCFS algorithm which makes use of a time slice (Burst time) is…….

58) Schedule algorithm that is performed on groups of processes is known as…….

59) The activity that keeps the workload evenly distributed across all processors in an SMP system is known as

A. Load balancing c. Load Delimiter

B. Load Shedding d. Load Algorithm

60) Multiple Processor Cores on the same chip is known as

A. Core i3 B. Quadcore Pro

B. MultiProcessor Core D. Dual Core

CHAPTER SEVEN

61) In a multiprogramming environment, several processes may compete for a finite number of……

a) resources b) time c) deadlock d) things

62) A process requests resources; if the resources are not available at that time, the process enters a ……

a) deadlock b) waiting state c) hibernation d) time wasting

63) A…… records whether each resource is free or allocated

a) recorder b) system table c) allocator d) system

64) If a process requests a resource that is currently allocated to another process, it can be added to a ……. of processes waiting for this resource

a) queue b) program c) line d) system

65) Sometimes, a waiting process is never again able to change state, because the resources it has requested are held by other waiting processes. This situation is called ……

a) resources b) time c) management d) deadlock.

66) Deadlocks can be described more precisely in terms of a directed graph called……

a) system resource-allocation graph b) system waiting allocation graph

c) system graph d) deadlock resource allocation graph

67) All the following are ways we can deal with the deadlock problem in one of except

a) We can use a protocol to prevent or avoid deadlocks, ensuring that the system will *never* enter a deadlocked state.

b) We can allow the system to enter a deadlocked state, detect it, and recover.
c)We can ignore the problem altogether and pretend that deadlocks never occur in the system.
d) Restarting the system all over again.

68) If a system does not employ either a deadlock-prevention or a deadlock avoidance algorithm, then a deadlock situation may arise.
a) True b) False

69) One lock-order verifier, which works on BSD versions of UNIX such as FreeBSD, is known as
a) view b) verifier c) witness d) locker

70) A state is…… if the system can allocate resources to each process (up to its
maximum) in some order and still avoid a deadlock.
a) well b) fine c) ok d) safe

CHAPTER EIGHT

71) CPU fetches the instruction from memory according to the value of
a) program counter b) status register
c) instruction register d) program status word

72) A memory buffer used to accommodate a speed differential is called
a) stack pointer b) cache
c) accumulator d) disk buffer

73) Which one of the following is the address generated by CPU?
a) physical address b) absolute address
c) logical address d) none of the mentioned

74) Run time mapping from virtual to physical address is done by
a) memory management unit b) CPU
c) PCI d) none of the mentioned

75) 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

76) 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

77) Program always deals with
a) logical address b) absolute address
c) physical address d) relative address

78) The page table contains
a) base address of each page in physical memory b) page offset
c) page size d) none of the mentioned

79) 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

80) Operating System maintains the page table for
a) each process b) each thread
c) each instruction d) each address

CHAPTER NINE

81) Because of virtual memory, the memory can be shared among
a) processes b) threads
c) instructions d) none of the mentioned

82) The pager concerns with the
a) individual page of a process b) entire process
c) entire thread d) first page of a process

83) Address location in main memory, is referred to as

a) Logical address b) Physical address

c) Static address d) Block associative

84) A virtual-memory block is known as page, and a virtual-memory miss is called a

a) Page miss b) Hit miss

c) Page fault d) Memory fault

85) Main memory of a computer can act as a

a) Virtual memory b) Main memory

c) Cache d) Buffer

86) Virtual memory producing virtual-addresses, are translated by

a) Logical addresses b) Local addresses

c)Physical addresses d) All the above

87) At any instant it is possible to switch from one process to another, this exchange is called a

a) Process switch b) Context switch

c) Swapping d) Both a and b

88) Virtual memory is

a) An extremely large memory

b) An extremely large secondary memory

c) An illusion of extremely large main memory

d) An illusion of extremely large secondary memory

89) The pager concerns with the

a) individual page of a process b) entire process

c) entire thread d) first page of a process

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

a) Paging b) Demand paging

c) Segmentation d) Swapping

CHAPTER TEN

91) Which of the following is true about magnetic tapes?

(a) Can hold relatively small amount of data.
(b) The average time for accessing data on a magnetic tape is faster compared to magnetic disk.
(c) It is relatively permanent secondary storage device.
(d) Random access of data is faster as compared to magnetic disk and hence a better choice for secondary storage of data.
(e) Only stores text.

92) Modern magnetic disk drives are addressed as large one-dimensional arrays called?

(a) flips
(b) Logical blocks
(c) Storage channels
(d) Arbitrated loop
(e) Segments

93) Whenever a process needs I/O to or from the disk, it issues a system call to the operating system. The request specifies several pieces of information. Which of the following is not part of the information?

(a) Whether this operation is input or output.
(b) What the disk address for the transfer is.
(c) What the memory address for the transfer is.
(d) The next process to use the I/O after the current process in need.
(e) The efficiency of the operation to be performed.

94) In FCFC scheduling……

(a) The process with the highest execution time executes first.
(b) The process with the lowest execution time executes first.
(c) The first process to be loaded into memory executes first.
(d) The process with the earliest deadline
(e) The last process to be loaded into memory

95) SSTF stands for?

(a) Sudden Same Transfer First.
(b) Shortest-Seek-Time-First.
(c) Strongest-Seek-Time-First

(d) Safety Standard Transfer File
(e) Shortest-Seek-Term-First

96) Which of the following is not a disk write result?
(a) Successful completion
(b) Biased permission
(c) Partial failure
(d) Total failure
(e) None of the above

97) Disk drives are the major secondary storage I/O on most computers.
(a) True
(b) Partially true
(c) False
(d) Partially false
(e) None of the above

98) Request for I/O are generated by?
(a) The file system and certain protocols.
(b) He files system and the virtual memory system
(c) Algorithms
(d) External fragmentation
(e) Disk blocks and the hardware in use.

99) Which of the following best describes bit-level splitting?
(a) splitting the bits of each byte of data across multiple disks.
(b) splitting the bytes of each packet of across multiple disks
(c) splitting blocks of file across multiple disks
(d) splitting blocks of files across a single disk
(e) defining the importance of data storage

100) A variety of disk-organization techniques that are commonly used to address the performance and reliability of data storage is known as?
(a) Protocols
(b) Data splitting
(c) RAID
(d) Pools
(e) Sector slipping

Group Members

1 Eugene Osei Agyemang – 2567914

2. Clement Appiah Kubi – 2562014

3. Nazzar Johnson – 2566714

4. Shaibu Nafiwu

5. Aryee Bernard - 2562214