

Multiple choice questions. Each question is worth 3 points.

- 1) Which of the following statement is **True** about the pointers?
- a) To reach the memory location variables, arrays...etc use at (at) operator
 - b) \$a will give the address of the int a
 - ☒ c) It is possible to create a pointer of pointer
 - d) The size of a double pointer and char pointers are different

- 2) Which of the following statement is **True** about the memory blocks?
- a) The stack segment is used to store the global variables
 - b) The code segment is used to store local variables
 - c) The stack segment is used for dynamic memory allocation
 - ☒ d) The data segment is used to store the function's data such as global and static variables

- 3) _____ keeps on reading until it sees a newline character. Thus, it is sensitive to Buffer Overflow attacks.

- ☒ a) gets
- b) fgets
- c) puts
- d) fputs

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4) Which of the following is a non-negative integer number that uniquely identifies an open file in Unix

- a) File Permission Mode
- b) File Descriptor
- c) File Buffer Cache
- d) File I-node

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- 5) _____ is way to use standard I/O library to open a file for read-only purpose.
- a. `fopen("listing.csv", "rw")`
 - b. `fopen("listing.csv", "r+")`
 - c. `open("listing.cvs", O_RDONLY)`
 - d. `open("listing.cvs", readonly=true)`
- 6) A single _____ may contains multiple _____
- a. thread, processes
 - b. thread, executions
 - c. process, threads
 - d. thread, tasks

- c. `open("listing.cvs", O_RDONLY)`
- d. `open("listing.cvs", readonly=true)`

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- a. thread, processes
 - b. thread, executions
 - c. process, threads
 - d. thread, tasks

- 7) You can display various processes that are currently running in the background using the _____ command

- a) `bg`
- b) `jobs`
- c) `fg`
- d) `ps`

- 8) Which of the following approach is **not used** to deal with the deadlocks?

- a) Deadlock Repetition
- b) Deadlock Prevention
- c) Deadlock Avoidance
- d) Deadlock Detection

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Exam-2
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9) Race condition and Deadlock are _____ issues

- a. concurrency
- b. reliability
- c. power-efficiency
- d. security

10) Which of the following is not an element of a process?

- a) Identifier
- b) State
- c) Program Counter
- d) Emulator

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- 11) Which of the following function replaces the current process image with a new process image?

- a) exel
- b) mv
- c) wait
- d) change_pimage()

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13) What will be the output of the following program?

```
int main()
{
    int a = 10, b, c;
    b = --a;
    c = a--;
    printf("%d %d %d", a, b, c);
    return 0;
}
```

- a) 8 9 9
- b) 8 8 9
- c) 8 9 10
- d) 8 8 8

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Exam-2
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14) Which of the following is **NOT** a Linux distribution

- a. Ubuntu
- b. Windows Subsystem for Linux
- c. Centos
- d. Red Hat

15) You can execute a program in the background by typing the program name followed by the symbol _____ at the end

- a) >>
- b) |
- c) ~
- d) &

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16) Which of the following state does not exist for the Linux environment processes?

- a) Suspended
- b) Background
- c) Underground
- d) Foreground

17) If we have multiple processes and they compute for the same resource, it will permanently block the processes, and this is called _____

- a) Spinlock
- b) Deadlock
- c) Zombie Processes
- d) Race Condition

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- 18) Which process is the winner of the race condition?
- a) The process which is created first
 - b) The process which is created last
 - c) The slower process
 - d) The faster process

19) Which of the following function takes the arguments as a vector?

- a) execvpe
- b) execle
- c) execlp
- d) execlstruct

20) Which of the following system calls returns the process id of the current process?

- a) getid()
- b) getpid()
- c) getppid()
- d) pid()

21) What is the role of the following command?

`fg %1`

- a) Brings the first process in the list to the foreground
- b) Waits the child process for 1 second
- c) Suspends the execution of the process whose id is 1
- d) Reduces the processor power 1 percent

Page 7 of 14

- b) Data
- c) Stack
- d) Local

23) Which of the following mechanism is not used to provide concurrency in UNIX?

- a) Pipes
- b) Signals
- c) Semaphores
- d) Symbolic Links

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24) Which of the following statement is not True?

- a) fork() creates a new process by duplicating the calling process
- b) The calling process is referred to as the parent process
- c) If the fork() call is successful, then a unique process ID will be assigned to the child process
- d) If the fork() call is successful, then it returns 0 to the parent process.

- b) Signals
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25) What is the correct format specifier often used to print integers?

- a) %d
- b) %s
- c) %c
- d) %f

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26) There are special background processes that are started at system startup and they continue to run till the system is shutdown. These special background processes are called _____?

- a) Angels
- b) Threads
- c) Zombies
- d) Daemons

27) Which of the following statement is **not True** about the deadlocks?

- a) There is no single effective strategy that can deal with all types of deadlock
- b) It is the temporary blocking of a set of processes
- c) All deadlocks involve conflicting needs for resources by two or more processes
- d) It usually occurs when the processes compete for system resources or communicate with each other

d) Daemons

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28) _____ is used to indicate that the pointer **doesn't** point to a valid location.

- a) Free
- b) Void
- c) Null
- d) Vacant

29) Which of the following command reads from the input.txt file

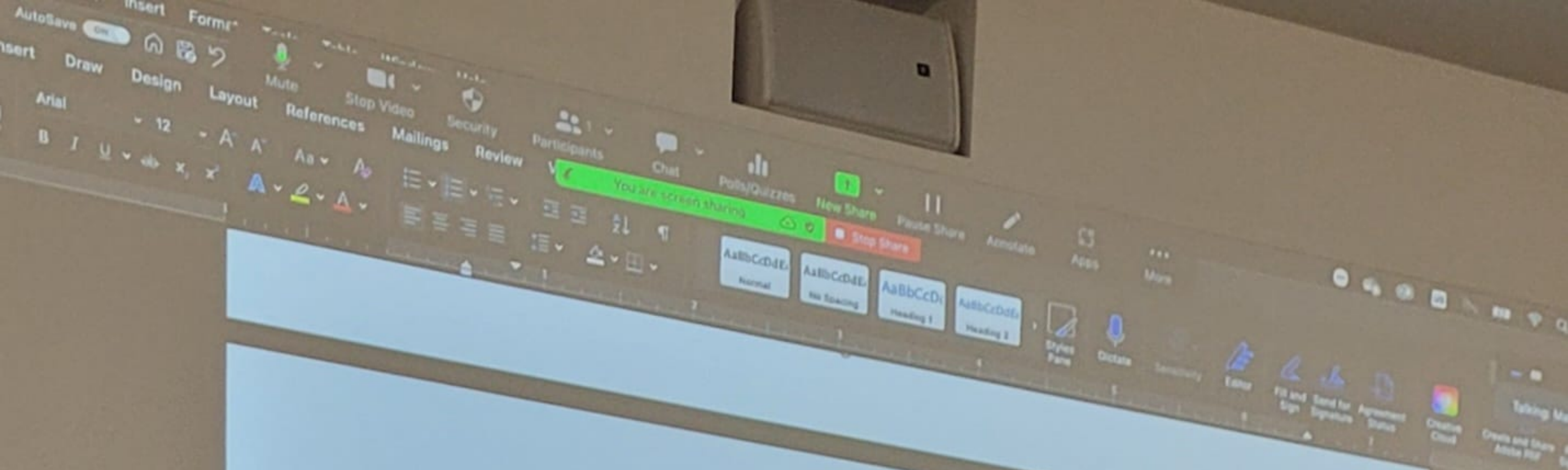
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- c) **Null**
- d) Vacant

29) Which of the following command reads from the input.txt file and appends to the output.txt file?

- a) `./myprog > input.txt >> output.txt`
- b) `./myprog < input.txt >> output.txt`
- c) `./myprog > input.txt 2> output.txt`
- d) None of the above



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- 30) Which data structure is used to store file information in the Unix systems?
- a) Arrays
 - b) Linked List
 - c) Struct
 - d) Stack

True/False Questions. Each question is worth 1 point

Statement	True	False
31) If the child process exits before the parent process completes its execution and terminates, the child process will become a zombie process	<input checked="" type="checkbox"/>	<input type="checkbox"/>
32) A cloud is an interface between the user and the kernel.	<input type="checkbox"/>	<input type="checkbox"/>
33) To change access modes on files you can use the <code>modChange()</code> command.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | |
|---|--|--|
| 43) Kernel mode is a more privileged execution mode | | |
| 44) The angels file system is a virtual file system that is created by the OS at system boot time to provide an interface between the kernel space and user space | | |
| 45) Each process belongs to exactly one thread and no process can exist outside a thread | | |

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Multiple choice questions. Each question is worth 3 points.

46) While using the kill system call, if no signal is specified, the _____ signal is sent.

- a) SUSPEND
- b) DESTROY
- c) TERM
- d) STOP

47) The _____ file system is a virtual file system that is created by the OS at system boot time to provide an interface between the kernel space and user space.

- a) Daemons
- b) Angels
- c) Proc
- d) Init

Page 12 of 14 12 of 1600 words English (United States) Accessibility: Readability

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