

Started on	Thursday, 12 June 2025, 2:51 PM
State	Finished
Completed on	Thursday, 12 June 2025, 2:58 PM
Time taken	6 mins 58 secs
Marks	20.00/25.00
Grade	80.00 out of 100.00

Question 1

Complete

Mark 1.00 out of 1.00

Which data structure is used for memory page replacement algorithms?

- ☒ a. Queue
- ☐ b. Linked List
- ☐ c. Hash Table
- ☐ d. Stack

Question 2

Complete

Mark 1.00 out of 1.00

What kind of memory allocation is used for recursion?

- ☒ a. Stack
- ☐ b. Swap space
- ☐ c. Heap
- ☐ d. ROM

Question 3

Complete

Mark 1.00 out of 1.00

Which of the following causes a memory leak?

- ☐ a. Page fault
- ☒ b. Allocating memory without freeing it
- ☐ c. Stack overflow
- ☐ d. Double freeing a pointer

Question 4

Complete

Mark 1.00 out of 1.00

What is a "dangling pointer"?

- ☐ a. A pointer to garbage value
- ☒ b. A pointer to a freed memory location
- ☐ c. A pointer to a null value
- ☐ d. A pointer to the stack

Question 5

Complete

Mark 0.00 out of 1.00

What happens if you `free()` an already freed pointer in C?

- ☐ a. Undefined behavior (possible crash)
- ☐ b. Nothing
- ☐ c. Memory leak
- ☒ d. Segmentation fault guaranteed

Question 6

Complete

Mark 1.00 out of 1.00

The OS swaps memory pages to disk to:

- ☐ a. Free CPU registers
- ☐ b. Increase cache size
- ☒ c. Manage memory more efficiently
- ☐ d. Improve network speed

Question 7

Complete

Mark 1.00 out of 1.00

The least recently used (LRU) algorithm is a type of:

- ☐ a. Memory allocation
- ☒ b. Page replacement algorithm
- ☐ c. Segmentation algorithm
- ☐ d. Garbage collection algorithm

Question 8

Complete

Mark 1.00 out of 1.00

Which memory is used for function call and local variable storage?

- ☐ a. Heap
- ☐ b. Cache
- ☐ c. ROM
- ☒ d. Stack

Question 9

Complete

Mark 1.00 out of 1.00

Garbage collection is used in languages like Java to:

- ☐ a. Allocate memory faster
- ☒ b. Automatically free unused memory
- ☐ c. Reuse variables
- ☐ d. Prevent memory leaks

Question 10

Complete

Mark 0.00 out of 1.00

What happens when a program tries to access memory beyond its allocated space?

- ☐ a. Memory Leak
- ☐ b. Segmentation Fault
- ☒ c. Stack Overflow
- ☐ d. Deadlock

Question 11

Complete

Mark 1.00 out of 1.00

Which of the following is a sign of stack overflow?

- ☐ a. High CPU usage
- ☐ b. Unfreed memory
- ☒ c. Function recursion without base case
- ☐ d. Infinite loop

Question 12

Complete

Mark 0.00 out of 1.00

Which of the following helps avoid memory leaks in C++?

- ☐ a. Global variables
- ☐ b. Smart pointers
- ☒ c. Void pointers
- ☐ d. Raw pointers

Question 13

Complete

Mark 1.00 out of 1.00

What is a benefit of using dynamic memory allocation?

- ☐ a. Faster access time
- ☒ b. Flexibility at runtime
- ☐ c. Less memory usage
- ☐ d. No fragmentation

Question 14

Complete

Mark 1.00 out of 1.00

In virtual memory, what happens when a required page is not in memory?

- ☒ a. Page Fault
- ☐ b. Segmentation Fault
- ☐ c. Stack Overflow
- ☐ d. TLB Miss

Question 15

Complete

Mark 1.00 out of 1.00

A TLB (Translation Lookaside Buffer) improves:

- ☐ a. Swapping performance
- ☐ b. Stack speed
- ☒ c. Virtual to physical address translation
- ☐ d. Cache access time

Question 16

Complete

Mark 1.00 out of 1.00

Which of the following is NOT a valid memory allocation function in C/C++?

- ☐ a. malloc
- ☐ b. calloc
- ☐ c. realloc
- ☒ d. alloc

Question 17

Complete

Mark 0.00 out of 1.00

The stack grows:

- ☒ a. Upward in memory
- ☐ b. Randomly
- ☐ c. Downward in memory
- ☐ d. Both

Question 18

Complete

Mark 1.00 out of 1.00

What does the operating system use to translate virtual addresses to physical addresses?

- ☐ a. Program Counter
- ☐ b. Stack Pointer
- ☒ c. Page Table
- ☐ d. Memory Table

Question 19

Complete

Mark 1.00 out of 1.00

Copying garbage collectors work by:

- ☐ a. Deleting unused files
- ☐ b. Swapping memory blocks
- ☐ c. Freeing memory manually
- ☒ d. Copying reachable objects to a new memory area

Question 20

Complete

Mark 1.00 out of 1.00

Segmentation differs from paging because segmentation:

- ☐ a. Uses TLB
- ☐ b. Has fixed-size blocks
- ☒ c. Supports logical divisions like functions, arrays
- ☐ d. Is managed by hardware

Question 21

Complete

Mark 1.00 out of 1.00

The heap memory is primarily used for:

- ☒ a. Dynamic memory allocation
- ☐ b. Code segment
- ☐ c. Static variables
- ☐ d. Temporary variables

Question 22

Complete

Mark 1.00 out of 1.00

Which of the following best describes internal fragmentation?

- ☐ a. Unused memory outside allocated blocks
- ☒ b. Unused memory within allocated blocks
- ☐ c. Cache misses
- ☐ d. Memory leaks

Question 23

Complete

Mark 1.00 out of 1.00

Memory compaction is used to solve:

- ☐ a. Page fault
- ☐ b. Internal fragmentation
- ☐ c. Stack overflow
- ☒ d. External fragmentation

Question 24

Complete

Mark 1.00 out of 1.00

What is the purpose of the `malloc()` function in C?

- ☐ a. Allocate static memory
- ☒ b. Allocate memory on heap
- ☐ c. Free memory
- ☐ d. Allocate memory on stack

Question 25

Complete

Mark 0.00 out of 1.00

Which memory management technique allows non-contiguous memory allocation?

- ☐ a. Paging
- ☐ b. Both A and B
- ☒ c. Segmentation
- ☐ d. Stack Allocation