

CCAT – SECTION B (C Programming & DSA) | 50 Practice Questions

SECTION 1 – C PROGRAMMING (Q1–25)

1. Where are function declarations stored?
A. Source file
B. Header file
C. Binary file
D. Object file
2. What is the output?
`int x=2; while(x<=8){ printf("%d",x); x*=2;}`
A. 2468 B. 248 C. 24 D. Infinite loop
3. What happens in infinite recursion?
A. Output printed
B. Program ends normally
C. Stack overflow
D. Compile error
4. Output of: `char c[]="CDAC"; printf("%s",c);`
A. CDAC B. DAC C. C D. Error
5. Output of extern variable without definition?
A. 0 B. Garbage C. Linker error D. Compile error
6. `int a=5; a++; printf("%d",a);`
A. 4 B. 5 C. 6 D. Error
7. Macro replaces during:
A. Compile time B. Runtime C. Execution D. Linking
8. Size of int (32-bit)?
A. 2 B. 4 C. 8 D. Depends
9. Output of recursive function without base case?
A. 0 B. 1 C. Infinite loop D. Stack overflow
10. Which function copies string?
A. strcpy B. strcmp C. strlen D. strcat
11. What is returned by malloc on failure?
A. 0 B. NULL C. -1 D. Garbage
12. Which operator has highest priority?
A. + B. * C. () D. =
13. What is sizeof(char)?
A. 1 B. 2 C. 4 D. 8
14. Array index starts from?
A. 0 B. 1 C. -1 D. Depends

15. Which is not a storage class?
A. auto B. static C. extern D. register E. volatile
16. Output of `printf("%d", 5/2);`
A. 2 B. 2.5 C. 3 D. Error
17. What does `++i` mean?
A. Post increment B. Pre increment C. Multiply D. Divide
18. Which loop executes at least once?
A. for B. while C. do-while D. none
19. Function inside function is?
A. Allowed B. Not allowed C. Optional D. Macro
20. Header for `printf`?
A. `stdlib.h` B. `math.h` C. `stdio.h` D. `string.h`
21. Which operator is used for pointers?
A. & B. * C. -> D. All
22. What is dangling pointer?
A. Valid pointer B. Deleted memory pointer C. NULL pointer D. Array pointer
23. Which is faster?
A. Array B. Linked list C. Stack D. Queue
24. Size of float?
A. 2 B. 4 C. 8 D. 16
25. Which is not loop?
A. for B. while C. repeat D. do-while

SECTION 2 – DATA STRUCTURES (Q26–50)

26. Stack works on:
A. FIFO B. LIFO C. Random D. Priority
27. Queue works on:
A. FIFO B. LIFO C. FILO D. None
28. Time complexity of binary search?
A. $O(n)$ B. $O(\log n)$ C. $O(n^2)$ D. $O(1)$
29. Which tree has max 2 children?
A. Binary tree B. AVL C. Heap D. Graph
30. Full binary tree has:
A. 0 or 2 children B. Only 2 children C. Only 1 child D. None
31. Heap is used in:
A. BFS B. DFS C. Heap sort D. Merge sort
32. Best case of quick sort?
A. $O(n^2)$ B. $O(n \log n)$ C. $O(n)$ D. $O(1)$

33. Which is non-linear DS?
A. Stack B. Queue C. Tree D. Array
34. Hashing is used for?
A. Sorting B. Searching C. Traversing D. Merging
35. Inorder traversal of BST gives?
A. Sorted output B. Reverse order C. Random D. None
36. Which is not linear DS?
A. Array B. Stack C. Graph D. Queue
37. Graph traversal uses:
A. DFS B. BFS C. Both D. None
38. AVL tree is?
A. Balanced BST B. Heap C. Graph D. List
39. Worst case of bubble sort?
A. $O(n)$ B. $O(\log n)$ C. $O(n^2)$ D. $O(1)$
40. Which uses recursion?
A. DFS B. BFS C. Queue D. Stack only
41. Stack overflow occurs when?
A. Full stack B. Empty stack C. Large input D. Syntax error
42. Circular queue avoids?
A. Overflow B. Underflow C. Wastage D. Sorting
43. Binary tree max nodes at level L?
A. 2^L B. L^2 C. L D. 2L
44. Time complexity of merge sort?
A. $O(n)$ B. $O(n \log n)$ C. $O(n^2)$ D. $O(1)$
45. Which is dynamic DS?
A. Array B. Stack C. Linked list D. All
46. Which is LIFO?
A. Queue B. Stack C. Array D. Tree
47. Which is not sorting algo?
A. Merge B. Quick C. Heap D. DFS
48. Parent of heap stored at index i?
A. $i/2$ B. $2i$ C. $i+1$ D. $i-1$
49. Worst case of linear search?
A. $O(1)$ B. $O(n)$ C. $O(\log n)$ D. $O(n^2)$
50. Which DS uses pointers?
A. Array B. Stack C. Linked List D. Queue