Amazon Technical & Coding:

1. Big endian refers to

a) Least significant byte stored in the smallest address.

b) most significant byte stored in the smallest address

c) most significant byte stored in the smallest address

d) none of the above

2. Write a function to write a word to a particular sector of Flash Memory.

3. How does Bootstrapping help to load and start an operating system?

4. What are the limitations of Flash Memory?

4. What is the full form of SQL? What are the various functions used in SQL?

5. What is a Balanced Tree? What are Red-Black Trees?

6. Explain Insertion Sorting. How does Insertion Sorting differ from Binary Sorting?

7. Explain any given program for the insertion of node in Single Linked List.

8. What is Tree Traversal in Binary Tree? What are Pre-order, In-order and post-order in Depth-First traversal?

9. What is the purpose of Semaphore? What are the two operations of Counting Semaphore? Differentiate between a Semaphore and a Mutex.

10. What is a deadlock Situation? What are the different situations responsible for a deadlock to occur?

11. What is the physical address if the virtual address is [0,514] and the page table contains an entry (032).

12. Give one example of Floating point representation. How are the different operations carried out in floating point representation?

13. What is a Use Case Diagram? What are their advantages? Explain with the help of a simple use case example.

14. What do you understand by Collaboration in Java?

15. What is a Class Diagram in UML (Unified Modeling Language)?

16. What are the different types of Data warehouse Systems? What are Hybrid design Methodologies in Data warehouse Systems?

17. What is Application Binary Interface (ABI)? How is it responsible for the direction of flow of Stack?

18. Give three properties of Object oriented Analysis.

19. What is a Database Trigger in DBMS? Give an example.

20. What is a Program Segment Prefix (PSP)?

21. Write and explain a C program for Binary Search.

22. Write a C program for nibble swapping of any hexadecimal data.

23. What are the bitwise shift operators?

24. What is the purpose of Binary Tree in C language? What are the different functions used in a Binary Tree?

25. What does a.out stand for?

26. Write a program to print a number into its number name.

27. For the following program, what are the values of I and j at the end of the loop

```
main()
{j=0
For(i=0;i<10;i++)
j+=i;
}
```

28. What is a Fork System call in C? In the following program, how many times "Hello" will be printed?

```
main()
{fork();
fork();
fork();
printf("Hello");
}
```

29. What is a malloc function? What are the functions that may be used to allocate the dynamic memory during the execution of a program?

30. Explain the different OSI layers and their functions.

31. Bridges are the part of which of the layers?

32. Which layer is responsible for end to end delivery of the data?

33. What is sliding Window Protocol? What are the layers in which the Sliding Window Protocol in used? What are the different types of a Sliding Window Protocol?

34. What is a Selective Repeat (ARQ) Protocol? What should be the window size of a sender and a receiver and Why?

35. What is an Address Resolution Protocol (ARP)? What is the packet structure of anAddress Resolution

Protocol?

36. What is a Client Server Architecture?

37. What are the key features in C programming language?

● Portability – Platform independent language.

● Modularity – Possibility to break down large programs into small modules.

● Flexibility – The possibility to a programmer to control the language.

● Speed – C comes with support for system programming and hence it is compiling and executes with high speed when comparing with other high-level languages.

● Extensibility – Possibility to add new features by the programmer.

38. What are the basic data types associated with C?

● Int – Represent number (integer)

● Float – Number with a fraction part.

● Double – Double-precision floating point value

● Char – Single character

● Void – Special purpose type without any value.

39. What is the description for syntax errors?

Ans) The mistakes when creating a program called syntax errors. Misspelled commands or

incorrect case commands, an incorrect number of parameters when called a method /function, data type mismatches can identify as common examples for syntax errors.

40. What is the process to create increment and decrement stamen in C?

Ans) There are two possible methods to perform this task.

1) Use increment (++) and decrement (-) operator.

Example When x=4, x++ returns 5 and x- returns 3.

2) Use conventional + or – sign.

When x=4, use x+1 to get 5 and x-1 to get 3.

41. What are reserved words with a programming language?

Ans) The words that are part of the slandered C language library are called reserved words. Those reserved words have special meaning and it is not possible to use them for any activity other than its intended functionality.

Example void, return, int.

42. What is the explanation for the dangling pointer in C?

Ans) When there is a pointer with pointing to a memory address of any variable, but after some time the variable was deleted from the memory location while keeping the pointer pointing to that location.

43. Describe static function with its usage?

Ans) A function, which has a function definition prefixed with a static keyword is defined as a static function. The static function should call within the same source code.

44. What is the difference between abs() and fabs() functions?

Ans) Both functions are to retrieve absolute value. abs() is for integer values and fabs() is for floating type numbers. Prototype for abs() is under the library file < stdlib.h > and fabs() is under < math.h >.

45. Describe Wild Pointers in C?

Ans) Uninitialized pointers in the C code are known as Wild Pointers. These are a point to some arbitrary memory location and can cause bad program behavior or program crash.

46. What is the difference between ++a and a++?

Ans) '++a" is called prefixed increment and the increment will happen first on a variable. 'a++' is called postfix increment and the increment happens after the value of a variable used for the operations.

47. Describe the difference between = and == symbols in C programming?

Ans) '==' is the comparison operator which is use to compare the value or expression on the left-hand side with the value or expression on the right-hand side.

'=' is the assignment operator which is use to assign the value of the right-hand side to the variable on the left-hand side.

48. What is the explanation for prototype function in C?

Prototype function is a declaration of a function with the following information to the compiler.

● Name of the function.

● The return type of the function.

● Parameters list of the function.

In this example Name of the function is Sum, the return type is integer data type and it accepts two integer parameters.

49. What is the explanation for cyclic nature of data types in C?

Ans) Some of the data types in C have special characteristic nature when a developer assign value beyond the range of the data type. There will be no any compiler error and the value change according to a cyclic order. This is called as cyclic nature and Char, int, long int data types have this property. Further float, double and long double data types do not have this property.

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double and long double data types do not have this property.

50.Describe the header file and its usage in C programming?

Ans) The file contains the definitions and prototypes of the functions being used in the program are called a header file. It is also known as a library file.

Example– The header file contains commands like printf and scanf is the stdio.h.

51. There is a practice in coding to keep some code blocks in comment symbols than delete it when debugging. How this affect when debugging?

Ans) This concept called as commenting out and is the way to isolate some part of the code which scans possible reason for the error. Also, this concept helps to save time because if the code is not the reason for the issue it can simply uncomment.

52. What are the general description for loop statement and available loop types in C?

Ans) A statement that allows executing statement or group of statements in repeated way is defined as a loop. Following diagram explains

Following diagram explains a general form of a loop.

There are 4 types of a loop statement in C.

● While loop

● For Loop

● Do...While Loop

● Nested Loop

53. What is a nested loop?

Ans) A loop running within another loop is referred as a nested loop. The first loop is called Outer loop and inside the loop is called Inner loop. Inner loop executes the number of times define an outer loop.

54. What is the general form of function in C?

Ans) Function definition in C contains four main sections.

● Return Type -> Data type of the return value of the function.

● Function Name -> The name of the function and it is important to have a meaningful name that describes the activity of the function.

● Parameters -> The input values for the function that need to use perform the required action.

● Function Body -> Collection of statement that needs to perform the required action.

55. What is a pointer on a pointer in C programming language?

Ans) A pointer variable that contains the address of another pointer variable is called pointer on a pointer. This concept de-refers twice to point to the data held by a pointer variable.
In this example **y returns value of the variable a.

56. What are the valid places to have keyword "Break"?

Ans) The purpose of the Break keyword is to bring the control out of the code block which is executing. It can appear only in Looping or switch statements.

57. What is the behavioral difference when include header file in double quotes ("") and angular braces (<>)?

Ans) When Header file include within double quotes (""), compiler search first in the working
directory for the particular header file. If not found then in the built in the include path. But when Header file include within angular braces (<>), the compiler only search in the working directory for the particular header file.

58. What is a sequential access file?

Ans) In general programs store data into files and retrieve existing data from files. With the sequential access file such data saved in a sequential pattern. When retrieving data from such files each data need to read one by one until required information find.

59. What is the method to save data in stack data structure type?

Ans) Data is stored in Stack data structure type using First in Last out (FILO) mechanism. Only top of the stack is accessible at a given instance. Storing mechanism is referred as a PUSH and retrieve is referred as a POP.

60. What is the significance of C program algorithms?

Ans) The algorithm needs to create first and it contains step by step guidelines on how the solution should create. Also, it contains the steps to consider and the required calculations/operations within the program.

Others questions like "Write the codes" will be asked in the above rounds.