

TCS NQT Questions and Answers for Programming Logic

C Programming

1. What will be the data type returned for the following C function?

```
1. #include <stdio.h>
2. int func()
3. {
4.     return (double)(char)5.0;
5. }
```

- a) char
- b) int
- c) double
- d) multiple type-casting in return is illegal

Answer: b

2. What will be the output of the following C code?

```
const char pla[] = "string1";
const char src[] = "string2";
printf("Before memmove place= %s, src = %s\n", pla, src);
memmove(pla, src, 7);
printf("After memmove place = %s, src = %s\n", pla, src);
```

- a) Before memmove place= string1, src = string2 After memmove place = string2, src = string2
- b) Before memmove place = string2, src = string2 After memmove place= string1, src = string2
- c) Before memmove place = string2, src = string1 After memmove place= string2, src =string2
- d) Before memmove place= string1, src = string2 After memmove place=string1, src = string1

Answer: a

Explanation: In the C library function void *memmove(void *str1, const void *str2, size_t n) copies n characters from str2 to str1.

CPP

3. Which of the header file is used to implement algorithms provided by C++ STL?
- a) <algorithm>
 - b) <header>
 - c) <algos>
 - d) <Algorithm>

Answer: a

Explanation: <algorithm> header is provided by the C++ to use STL algorithms.

4. Pick out the compound assignment statement.

- a) $a = a - 5$
- b) $a = a / b$
- c) $a -= 5$
- d) $a = a + 5$

Answer: c

Explanation: When we want to modify the value of a variable by performing an operation on the value currently stored, We will use compound assignment statement. In this option, $a -= 5$ is equal to $a = a - 5$.

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5. Which method do we use to append more than one character at a time?

- a) append
- b) operator+=
- c) data
- d) both append & operator+=

Answer: d

Explanation: C++ allows to append more characters to string using both inbuilt append() function and using operator overloaded += operator.

Java

6. Which of these is an incorrect array declaration?

- a) `int arr[] = new int[5]`
- b) `int [] arr = new int[5]`
- c) `int arr[] = new int[5]`
- d) `int arr[] = int [5] new`

Answer: d

Explanation: Operator new must be succeeded by array type and array size.

7. In the following Java code, which code fragment should be inserted at line 3 so that the output will be: "123abc 123abc"?

```
1. StringBuilder sb1 = new StringBuilder("123");
2. String s1 = "123";
3. // insert code here
4. System.out.println(sb1 + " " + s1);
```

- a) sb1.append("abc"); s1.append("abc");
- b) sb1.append("abc"); s1.concat("abc");
- c) sb1.concat("abc"); s1.append("abc");
- d) sb1.append("abc"); s1 = s1.concat("abc");

Answer: d

Explanation: append() is stringbuffer method and concat is String class method. append() is stringbuffer method and concat is String class method.

Data Structures

8. What are the dimensions of an incidence matrix?
- a) Number of edges*number of edges
 - b) Number of edges*number of vertices
 - c) Number of vertices*number of vertices
 - d) Number of edges * ($\frac{1}{2}$ * number of vertices)

Answer: b

Explanation: Columns may represent edges and vertices may be represented by the rows. <https://www.freshersnow.com/placement-papers-download/>

9. The essential condition which is checked before deletion in a linked queue is?
- a) Underflow
 - b) Overflow
 - c) Front value
 - d) Rear value

Answer: a

Explanation: To check whether there is element in the list or not.

10. Which one of the following data structures are preferred in database-system implementation?
- a) AVL tree

- b) B-tree
- c) B+ -tree
- d) Splay tree

Answer: c

Explanation: The database-system implementations use B+ -tree data structure because they can be used for multilevel indexing.