

## **Practical Lecture : Function**



# Quick Recap

Let's take a quick recap of previous lecture –

A)

B)

C)

D)

E)

# Today's Agenda

Today we are going to cover -

- MCQ Question
- Output base question
- Coding Question

**Let's Get Started-**

## MCQ 1

1. Recursion is a method in which the solution of a problem depends on \_\_\_\_\_

- a) Larger instances of different problems
- b) Larger instances of the same problem
- c) Smaller instances of the same problem
- d) Smaller instances of different problems

## MCQ 1

1. Recursion is a method in which the solution of a problem depends on \_\_\_\_\_

- a) Larger instances of different problems
- b) Larger instances of the same problem
- c) Smaller instances of the same problem**
- d) Smaller instances of different problems

**Answer: c**

**Explanation: In recursion, the solution of a problem depends on the solution of smaller instances of the same problem.**

## MCQ 2

2. Recursion is similar to which of the following?

a) Switch Case

b) Loop

c) If-else

d) if elif else

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**b) Loop**

c) If-else

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## MCQ 3

Which of the following statements is true?

- a) Recursion is always better than iteration
- b) Recursion uses more memory compared to iteration
- c) Recursion uses less memory compared to iteration
- d) Iteration is always better and simpler than recursion

## MCQ 3

Which of the following statements is true?

- a) Recursion is always better than iteration
- b) Recursion uses more memory compared to iteration**
- c) Recursion uses less memory compared to iteration
- d) Iteration is always better and simpler than recursion

## MCQ 4

How many ways of passing a parameter are there in c++?

a) 1

b) 2

c) 3

d) 4

## MCQ 4

How many ways of passing a parameter are there in c++?

a) 1

b) 2

**c) 3**

d) 4

## MCQ 5

By default how the value are passed in c++?

- a) call by value
- b) call by reference
- c) call by pointer
- d) call by object

## MCQ 5

By default how the value are passed in c++?

**a) call by value**

b) call by reference

c) call by pointer

d) call by object

# Find the output

```
#include <iostream>
using namespace std;
void copy (int& a, int& b, int& c)
{
    a *= 2;
    b *= 2;
    c *= 2;
}
int main ()
{
    int x = 1, y = 3, z = 7;
    copy (x, y, z);
    cout << "x =" << x << ", y =" << y << ", z =" << z;
    return 0;
}
```

# Solution

2 6 14



## Find the output

```
#include <iostream>
using namespace std;
void fun(int &x)
{
    x = 20;
}
int main()
{
    int x = 10;
    fun(x);
    cout << "New value of x is " << x;
    return 0;
}
```



# Find the output

```
#include <iostream>
using namespace std;
void square (int *x)
{
    *x = (*x + 1) * (*x);
}
int main ( )
{
    int num = 10;
    square(&num);
    cout << num;
    return 0;
}
```

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## Find the output

```
#include<stdio.h>
using namespace std;
int main()
{
    int n=10;
    int f(int n);
    cout<<f(n);
}
int f(int n)
{
    if(n>0)
        return(n+f(n-2));
}
```

# Solution

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## Find the output

```
void my_recursive_function(int n)
{
    if(n == 0)
        return;
    my_recursive_function(n-1);
    Cout<<n;
}

int main()
{
    my_recursive_function(10);
    return 0;
}
```

# Solution

Prints the numbers from 1 to 10



## Coding Question

1. Write a program to print the fibonacci series using recursion.
2. Write a program to check whether a number is palindrome or not using recursion.
3. Print all the natural number 21 to 55 using recursion.
4. Write a program to print the factorial of a number by taking input from the user.

Any Questions ??  
**Any Questions??**

# Thank You!

**See you guys in next class.**