c++

Parameter passing by Reference:

- In the given code below the target is to swap the values of x & y using pass by reference method.

```
Void Swap (int &a, int &b) //creating function swap with pinters
{
Int temp;
temp = a;
a = b;
b = temp;
}
Int main ()
{
    int x=10, y= 20;
Swap (&x, &y);
Cout<<x<<" "<<y;
}
```

Memory Functionality :

- The slightest yet very important thing to notice is that During the execution of main function the Swap function is not executed separately, it will be embedded in the main function automatically and treated as a single piece of code.

- In the activation record 'x' and 'a' act as same, similarly 'y 'and 'b' acts same.

- So when temp= &a is executed the value of x=10 is stored in temp as (x=a) and value of ‘a/x’ becomes 20 because of ‘a=b’ and similarly temp value is copied in ‘b/y’ because of ‘temp=b’.

(Note: call by reference is very similar to call by value, But Call by reference can modify the parameters as similar to call by address.
*Do not write any complex logic in the function if it is being used as called by reference as it will be embedded in main function.

*When using loops in call by reference avoid multiple loops as it may cause warnings due to improper copying done by compiler in the main function.

*If the piece of machine code is copied in main function then such functions is called as in-line functions)