

Parameter Passing – Pass by Value

1) Pass by value :

- In the given code below the target is to swap the values of x & y using pass by value method.
- Function “Swap” is created and we are going to pass two values of integer type.

```

Void Swap (int a, int b)
{
  Int temp ; // creating a temporary “temp” integer type for holding values
  temp = a; // ‘a’ value will be copied in ‘temp’ , now ‘a’ is empty for a
    while
  a=b;      // ‘b’ value will be copied in ‘a’ , now b is empty for a while
  b=temp; // ‘temp’ value will be copied in ‘b’
}
Int main ()
{
  int x=10, y= 20;
  Swap (x,y);
  Cout<<x<<” “<<y;
}

```

Memory Functionality :

The complete code is in Code section of memory.

As soon as main function is executed an activation record is created in stack of memory, With integer types of x=10 and y=20. Another

activation record is created as soon as function 'swap' is called with 'a' as 10 and 'b' as 20.

Now the swap function is in execution first value of a=10 is copied in temp and 'a' becomes empty, b=20 is copied in 'a' and now b becomes empty. Similarly, temp is copied in 'b'. The numbers are successfully swapped by passing the values from main function i.e from actual parameters (x,y) to formal parameters (a,b).

(Note: If any changes happen to formal parameters the it will not affect the actual parameters, as both the main function and swap function have different activation records)