Progam 04

Demonstration of Functions & Recursion using C++Structure

a. Functions:

Input	Output
#include <iostream></iostream>	The maximum value is: 10
using namespace std;	
// function declaration	
int max(int a, int b);	
int main() {	
int x = 5;	
int y = 10;	
int max_val = max(x, y);	
cout << "The maximum value is: " <<	
max_val << endl;	
return 0;	
}	
// function definition	
int max(int a, int b) {	
if (a > b) {	
return a;	
} else {	
return b;	
}	
}	

## b. Recursion

Input	Output
<pre>Input #include <iostream> using namespace std;  // recursive function declaration int factorial(int n);  int main() {   int n = 5;   int result = factorial(n);   cout &lt;&lt; "Factorial of " &lt;&lt; n &lt;&lt; " is " &lt;&lt;   result &lt;&lt; endl;   return 0;</iostream></pre>	Output Factorial of 5 is 120
<pre>// recursive function definition int factorial(int n) {    if (n == 0     n == 1) {       return 1;    } else {       return n * factorial(n - 1);    } }</pre>	