

C++ PROGRAMS

Functions

Simple Example Program for Function

```
#include<iostream>
using namespace std;
void printmessage() {
    cout << "Im Function In C++";
}

int main() {
    //Call Simple Function printmessage()
    printmessage();

    return 0;
}
```

C++ Program Add Two Numbers using Function.

```
#include<iostream>
using namespace std;
int addition(int a,int b);

int main()
{
    int num1, num2,add;

    cout<<"Enter first number: ";
    cin>>num1;
    cout<<"Enter second number: ";
    cin>>num2;
    add=addition(num1,num2);
    cout<<"Addition is: "<< add<< endl;
    return 0;
}

int addition(int a,int b)
{
    return (a+b);
}
```

C++ program to swap two numbers using call-by-value method.

```
#include<iostream>
using namespace std;
void swap(int,int);
int main()
{
    int num1,num2;
    cout<<"\n Enter First Number : ";
```

```

        cin>>num1;
        cout<<"\n Enter Second Number : ";
        cin>>num2;
        cout<<"\n Before Swapping the Value : \n"<<" "<< num1<<"\t"<< num2<<"\n";
        swap(num1,num2);
        cout<<"\n After Swapping the Value : \n"<<" "<< num1<<"\t"<< num2<<"\n";
    }
    void swap(int num1,int num2)
    {
        int num3;
        num3=num1;
        num1=num2;
        num2=num3;
    }
}

```

Write a function using reference variables as arguments to swap the values of pair of integers.

```

#include<iostream>
using namespace std;
void swap (int &x, int &y)
{
    int temp;
    temp=x;
    x=y;
    y=temp;
}
int main()
{
    int a,b;
    cout<<"Enter the value of a and b";
    cin>>a>>b;
    cout<<"\n Before swapping"<<"\n A = "<< a<<"\n B = " << b<< endl;
    swap(a,b);
    cout<<"\n After swapping"<<"\n A = "<< a<<"\n B = " << b<< endl;
    return 0;
}

```

C++ program to print the Fibonacci series using recursion function.

```

#include<iostream>
using namespace std;
int fibonacci(int num)
{
    if((num==1)|| (num==0))
    {
        return(num);
    }
    else
    {
        return(fibonacci(num-1)+fibonacci(num-2));
    }
}

```

```

int main()
{
    int num,i=0;
    cout<<"\n How many numbers you want for Fibonacci Series : ";
    cin>>num;
    cout<<"\n Fibonacci Series : ";

    while(i< num)
    {
        cout<<" "<< fibonacci(i);
        i++;
    }
    return 0;
}

```

C++ program to Calculate Factorial of a Number Using Recursion.

```

#include<iostream>
using namespace std;
int factorial(int n);

int main()
{
    int n;

    cout << "Enter number: ";
    cin >> n;

    cout << "Factorial of " << n << " = " << factorial(n);

    return 0;
}

int factorial(int n)
{
    if(n > 1)
        return n * factorial(n - 1);
    else
        return 1;
}

```