LAB 06

Summary

Items	Description
Course Title	Programming Fundamentals
Lab Title	Loops
Duration	3 Hours
Operating System /Tool/Language	Visual Studio
Objective	To get familiar with for loop , nested loop in C++

Syntax:

```
for ( initialization ;condition ; increment / decrement )
{
  statement(s);
}
```

Initialization = initial value to start the loop
condition = if condition is TRUE statement(s) / body of loop will execute
increment = after body of for loop executes , control transfer to increment statement

Sample program # 01

```
#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{
cout<<"Use of for loop"<<endl;
int i;
for(i=0;i<10;i++)
{
cout<<i<<endl;
}
system("pause");
	return 0;
}
```

Sample program # 02

```
#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{  cout<<"use of nested loops"<<endl;
  for(int i=1;i<=4;i++)
  {
    for(int j=1;j<=3;j++)
    {
     cout<<i<<"\t"<<j<<endl;
    }
  }
  system("pause");
       return 0;
}
```

Sample program# 03

```
#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{  int n, i, count=0;
  cout << "Enter a positive integer: ";
  cin >> n;
  for(i=2;i<n;i++)
  {
      if(n%i==0)
      {  count=1;
        break;
      }
  }
  if (count==0)
      cout << "This is a prime number";
  else
      cout << "This is not a prime number";
  system("pause");

       return 0;
}
```

LAB TASKS

TASK # 01

Run the sample programs, note the output and get familiar with the syntax of for loop.

TASK # 02

Create a program which print the table of a number using for loop .
table of and table upto will be entered by user

SAMPLE OUTPUT
Please Enter table of? 3
Please enter table upto ? 20

3x1=3
3x2=6
……..
3x20=60

TASK # 03

Create a c++ to find the sum of first 50 natural numbers using for loop

TASK # 04

Create a C++ program to print the following * patterns using for loop

Sample Output:

*
**
***
****
*****
******

TASK # 05

Create a program which take 10 values from user using for loop your program should count the total number of positive numbers, total number of negative numbers and total number of zeros

TASK # 06

Write a program to print abc using their ascii values.
// ascii value for a=97

TASK # 07

Write a program to print out all Armstrong numbers between 99 and 999. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.
For example, 153 = (1 * 1 * 1) + (5 * 5* 5) + (3 * 3 * 3)