School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering

CS-114 - Fundamentals of Programming

Lab Manual # 4

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Home Tasks

1:Write a program in C++ that prints the numbers from 1 to 150 except the multiples of 10. Make use of the continue statement.

main.cpp — Run

```
// Online C++ compiler print numbers 1-150, exc
    multiples of 10
#include <iostream>
using namespace std;

int main() {
    for (int x=1;x<151;x++) //declaring, initialising
        variable, for loop
    {
        if (x%10==0) // exclusion of multiples of 10 by
            if
        continue;
        cout<<x<<" "; //output
    }

    return 0;
}
```

Output — Clear

```
/tmp/2JdxwW7IG6.o
1 2 3 4 5 6 7 8 9 11 12 13 14 15 16 17 18 19 21 22 23 24 25
   26 27 28 29 31 32 33 34 35 36 37 38 39 41 42 43 44 45 46
   47 48 49 51 52 53 54 55 56 57 58 59 61 62 63 64 65 66 67
   68 69 71 72 73 74 75 76 77 78 79 81 82 83 84 85 86 87 88
   89 91 92 93 94 95 96 97 98 99 101 102 103 104 105 106 107
   108 109 111 112 113 114 115 116 117 118 119 121 122 123
   124 125 126 127 128 129 131 132 133 134 135 136 137 138
   139 141 142 143 144 145 146 147 148 149
```

2:Write a C++ program to find the sum of digits of a number.
The sum of digits means adding all the digits of any number, for example, we take any number like 358. Its sum of all digits is 3+5+8=16.

main.cpp — Run

```
// Code to sum the digits of a number input
#include <iostream>
using namespace std;
int main() {
    int x,sum,y; //declaring
    cout<<"Insert Number:"<<endl;
    cin>>x; //input by user
    sum=0; // initilaising sum
for (x; x>0;x=x/10) //loop, value of x changes every loop
{
      y=x%10;//initialsing y
      sum=sum+y;
      cout<<y;
      if (x>10)
      cout<<"+";
}
    if (x<0) //exception for negative numbers
    cout<<"Error";
    else

    cout<<"="<<sum;//output

    return 0;
}
```

Output — Clear

```
/tmp/QAEXEWHGOK.o
Insert Number:
346
6+4+3=13
```

3:Write a program in C++ to check whether a number is prime or not.

main.cpp

Run

```cpp
// Online C++ compiler to determine if number is prime
#include <iostream>
using namespace std;
int main() {
    int x; //declaring
    cout<<"Insert Number:"<<endl;
    cin>>x; //input
    if (x==1||x<=0) //condition for 1, negative numbers
    cout<<"Not a Prime Number"<<endl;

    for(int n=2;n<=x;n++) //loop for othes
    {
        if (x/n==1)
        {
            cout<<"Prime Number"; //true output
            break;
        }
        if (x%n==0)
        {
            cout<<" Not a Prime Number"; //false output
            break;
        }
        }
    return 0;
}
```

Output

Clear

```
/tmp/gYtdJ94kW7.o
Insert Number:
52
Not a Prime Number
```