CSS-114- FUNDAMENTALS OF PROGRAMMING

LAB MANUAL #4

LAB AND HOME TASK

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Home Task:

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.

```
#include<iostream>
using namespace std;
int main(){
    //To print numbers from 1 to 150 except the multiples of 10.
    cout<<"HOME TASK 1."<<endl;
    // initialize an integer value n as 1, set the condition that the maximum value printed is 150, and declare n++
    for(int n=1; n<=150 ; n++){
    // if n is divisible by 10, that value of n will be skipped and code will continue to print
    if (n % 10 == 0){
    continue;
    }
    cout<<n<<endl; }
    return 0; }
```

CODE RESULT:

```
HOME TASK 1.
1
2
3
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5
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149

--------------------------------
Process exited after 13.51 seconds with return value 0
Press any key to continue . . .
```

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.

```cpp
#include<iostream>
using namespace std;
int main(){
    //To Find The Sum of all the Digits in a number
    cout<<"HOME TASK 2."<<endl;
    // set 3 integers, and then Input a number from the user
    int number,X,sum;
    cout <<"Please Enter your Number:\n"<<endl;
    cin>>number;
    // Initialize sum as 0, set the condition that the number must be greater than 0, and declare that the number is to be divided by 10 at each stage
    for(sum=0; number>0; number=number/10){
        //when divided by 10, the remainder of a number y will be a number x whose first number is the same as the second of the number y
        X = number % 10;
        // the final sum is the addition of each remainder
        sum += X; }
    cout<<"The Sum of the Digits in the Number:"<<sum<<endl;

    return 0;
}
```

CODE RESULT:

```
HOME TASK 2.
Please Enter your Number:

34556
The Sum of the Digits in the Number:23

--------------------------------
Process exited after 17.54 seconds with return value 0
Press any key to continue . . .
```

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

```cpp
#include<iostream>
using namespace std;
int main(){
    //To check whether a number is prime or not
    cout<<"HOME TASK 3."<<endl;
    int num,prime;
    //Input a Number from the user
    cout<<"Please enter a Number:"<<endl;
    cin>>num;
    //0 and 1 are neither prime, nor composite numbers
    if (num<=0 || num==1){ cout<<"The Number entered was invalid."<<endl;}
    //if a number is divisible by any number that lies in the range between 2 and half that number, it is not prime.
    for(prime=2;prime<=num/2;prime++){
    //check if number is divisible by the integer variable 'prime', if it is, then it is not a prime number.
    if(num%prime==0){ cout<<"The Number is not a Prime Number."<<endl;
    break; }
    else { if(prime==num/2)
     cout<<"The Number is a Prime Number."<<endl; } }
     return 0; }
```

CODE RESULT:

```
HOME TASK 3.
Please enter a Number:
23
The Number is a Prime Number.

--------------------------------
Process exited after 8.728 seconds with return value 0
Press any key to continue . . .
```