NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

Home Task # 4

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TASK 1

```
#include <iostream>
using namespace std;
// Abdul Moiz's Home Task 4
int main()
{
    for (int i; i <= 150; ++i){
        if (i  % 10 == 0){
            cout << endl;
            continue;
        }
        cout << i << "\t";
    }
    return 0;
}
```

main.cpp

```cpp
#include <iostream>
using namespace std;
// Abdul Moiz's Home Task 4
int main()
{
    for (int i; i <= 150; ++i){
        if (i  % 10 == 0){
            cout << endl;
            continue;
        }
        cout << i << "\t";
    }
    return 0;
}
```

```
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


...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 2

```
#include <iostream>
using namespace std;
// Abdul Moiz's Home Task 4
int main()
{
   int num, digit, sum = 0;
   cout << "Enter number: ";
   cin >> num;

   /* we will find remainder after dividing number by 10
   using modulus, which will be the last digit of
   the number.

   Then we'll add the digit to a
   variable sum.

   Then we'll divide the num
   variable by 10 and assign the answer to
   num. Since c++ floors if the answer is in a
   decimal, this will return a whole number exluding
   the already counted digit. By repeating this using a
   loop, we can find the sum of individiual digits of any number*/

   do{
      digit = num % 10;
      sum = sum +  digit;
      num = num / 10;
   } while (num != 0);
   cout << "Sum: " << sum;
   return 0;
}
```

main.cpp

```cpp
#include <iostream>
using namespace std;
// Abdul Moiz's Home Task 4
int main()
{
    int num, digit, sum = 0;
    cout << "Enter number: ";
    cin >> num;
    /* we will find remainder after dividing number by 10
    using modulus, which will be the last digit of
    the number.

    Then we'll add the digit to a
    variable sum.

    Then we'll divide the num
    variable by 10 and assign the answer to
    num. Since c++ floors if the answer is in a
    decimal, this will return a whole number exluding
    the already counted digit. By repeating this using a
    loop, we can find the sum of individiual digits of any number*/

    do{
        digit = num % 10;
        sum = sum +  digit;
        num = num / 10;
    } while (num != 0);
    cout << "Sum: " << sum;
    return 0;
}
```

```
Enter number: 321
Sum: 6

...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 3

```
#include <iostream>
using namespace std;
// Abdul Moiz's Home Task 4
int main()
{
   int num;
   bool check;
   check = false;
   cout << "Enter number: ";
   cin >> num;

   /* using for loop with increasing count until
   half of the input number, if it fully dividies,
   then it is not a prime no with exception for 1
   which is also not a prime no.*/

   for (int i = 2; i <= (num / 2); ++i){
      if ( num % i == 0){
            check = true;
            break;
      }
   }
   if (check == false && num != 1){
      cout << "Prime number.";
   }
   else {
      cout << "Not a prime number.";
   }
   return 0;
}
```

main.cpp

```cpp
// TASK 3
#include <iostream>
using namespace std;
// Abdul Moiz's Home Task 4
int main()
{
    int num;
    bool check;
    check = false;
    cout << "Enter number: ";
    cin >> num;

    /* using for loop with increasing count until
    half of the input number, if it fully dividies,
    then it is not a prime no with exception for 1
    which is also not a prime no.*/

    for (int i = 2; i <= (num / 2); ++i){
        if ( num % i == 0){
            check = true;
            break;
        }
    }
    if (check == false && num != 1){
        cout << "Prime number.";
    }
    else {
        cout << "Not a prime number.";
    }
    return 0;
}
```

```
Enter number: 7
Prime number.

...Program finished with exit code 0
Press ENTER to exit console.
```