



NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

Home Task # 4

Abdul Moiz
CMS: 474550
ME-15B

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

```
1 #include <iostream>
2 using namespace std;
3 // Abdul Moiz's Home Task 4
4 int main()
5 {
6     for (int i; i <= 150; ++i){
7         if (i % 10 == 0){
8             cout << endl;
9             continue;
10        }
11        cout << i << "\t";
12    }
13    return 0;
14 }
```



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 excluding the already counted digit. By repeating this using a loop, we can find the sum of individual digits of any number*/

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

main.cpp

```
1  #include <iostream>
2  using namespace std;
3  // Abdul Moiz's Home Task 4
4  int main()
5  {
6      int num, digit, sum = 0;
7      cout << "Enter number: ";
8      cin >> num;
9      /* we will find remainder after dividing number by 10
10     using modulus, which will be the last digit of
11     the number.
12
13     Then we'll add the digit to a
14     variable sum.
15
16     Then we'll divide the num
17     variable by 10 and assign the answer to
18     num. Since c++ floors if the answer is in a
19     decimal, this will return a whole number excluding
20     the already counted digit. By repeating this using a
21     loop, we can find the sum of individual digits of any number*/
22
23     do{
24         digit = num % 10;
25         sum = sum + digit;
26         num = num / 10;
27     } while (num != 0);
28     cout << "Sum: " << sum;
29     return 0;
30 }
```

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

```
1 // TASK 3
2 #include <iostream>
3 using namespace std;
4 // Abdul Moiz's Home Task 4
5 int main()
6 {
7     int num;
8     bool check;
9     check = false;
10    cout << "Enter number: ";
11    cin >> num;
12
13    /* using for loop with increasing count until
14    half of the input number, if it fully dividies,
15    then it is not a prime no with exception for 1
16    which is also not a prime no.*/
17
18    for (int i = 2; i <= (num / 2); ++i){
19        if ( num % i == 0){
20            check = true;
21            break;
22        }
23    }
24    if (check == false && num != 1){
25        cout << "Prime number.";
26    }
27    else {
28        cout << "Not a prime number.";
29    }
30    return 0;
31 }
```

Enter number: 7
Prime number.
...Program finished with exit code 0
Press ENTER to exit console.