

# UNIT 1\_EASY

## 1) Odd or Even

```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int a;
6     cout<<"Enter the value of a:";
7     cin>>a;
8     if(a%2==0)
9     {
10         cout<<"Its is Even";
11     }
12     else
13     {
14         cout<<"Its Odd";
15     }
16 }
```

cd "/Users/guttichaitanya/vscode/" && g++ program.cpp -o program && "/Users/guttichaitanya/vscode/"program

guttichaitanya@Guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ program.cpp -o program && "/Users/guttichaitanya/vscode/"program

Enter the value of a:75.5

Its Odd

guttichaitanya@Guttis-MacBook-Air vscode %

## 2) Palindrome

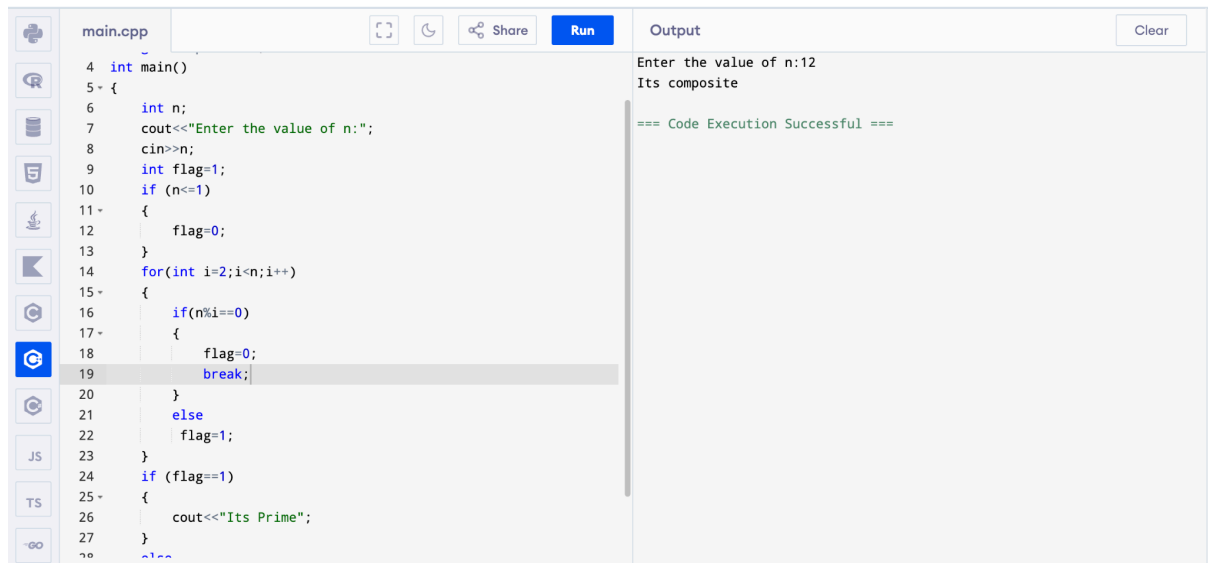
```
1 #include<iostream>
2
3 using namespace std;
4 int main()
5 {
6     int n;
7     cout<<"Enter the value of n:";
8     cin>>n;
9     int org=n;
10    int rev=0;
11    int digit;
12    while (n>0)
13    {
14        digit=n%10;
15        rev=(rev*10)+digit;
16        n=n/10;
17    }
18    if (org==rev)
19    {
20        cout<<"Its is Palindrome";
21    }
22    else
23    {
24        cout<<"Its is not Palindrome";
25    }
26    return 0;
27 }
```

Enter the value of n:121

Its is Palindrome

=== Code Execution Successful ===

### 3) Prime or Not Prime



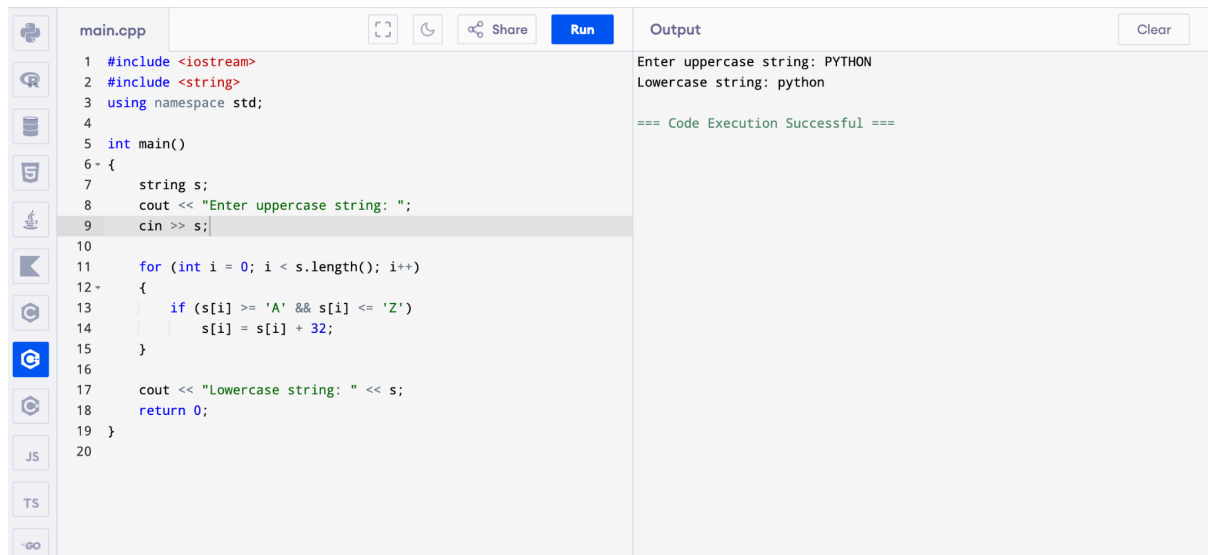
```
main.cpp
4 int main()
5 {
6     int n;
7     cout<<"Enter the value of n:";
8     cin>>n;
9     int flag=1;
10    if (n<=1)
11    {
12        flag=0;
13    }
14    for(int i=2;i<n;i++)
15    {
16        if(n%i==0)
17        {
18            flag=0;
19            break;
20        }
21        else
22            flag=1;
23    }
24    if (flag==1)
25    {
26        cout<<"Its Prime";
27    }
28    }
```

Output

Enter the value of n:12  
Its composite

=== Code Execution Successful ===

### 4) To make Capital letters to small Letters



```
main.cpp
1 #include <iostream>
2 #include <string>
3 using namespace std;
4
5 int main()
6 {
7     string s;
8     cout << "Enter uppercase string: ";
9     cin >> s;
10
11    for (int i = 0; i < s.length(); i++)
12    {
13        if (s[i] >= 'A' && s[i] <= 'Z')
14            s[i] = s[i] + 32;
15    }
16
17    cout << "Lowercase string: " << s;
18    return 0;
19 }
```

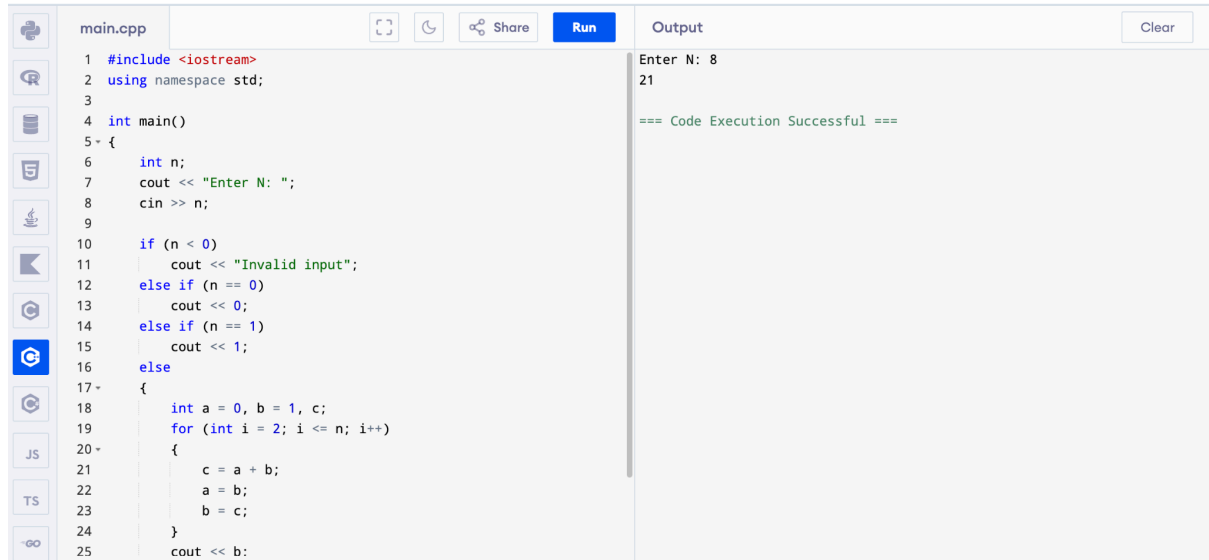
Output

Enter uppercase string: PYTHON  
Lowercase string: python

=== Code Execution Successful ===

# HARD

## 1) Nth Fibonacci Number using IF-ELSE



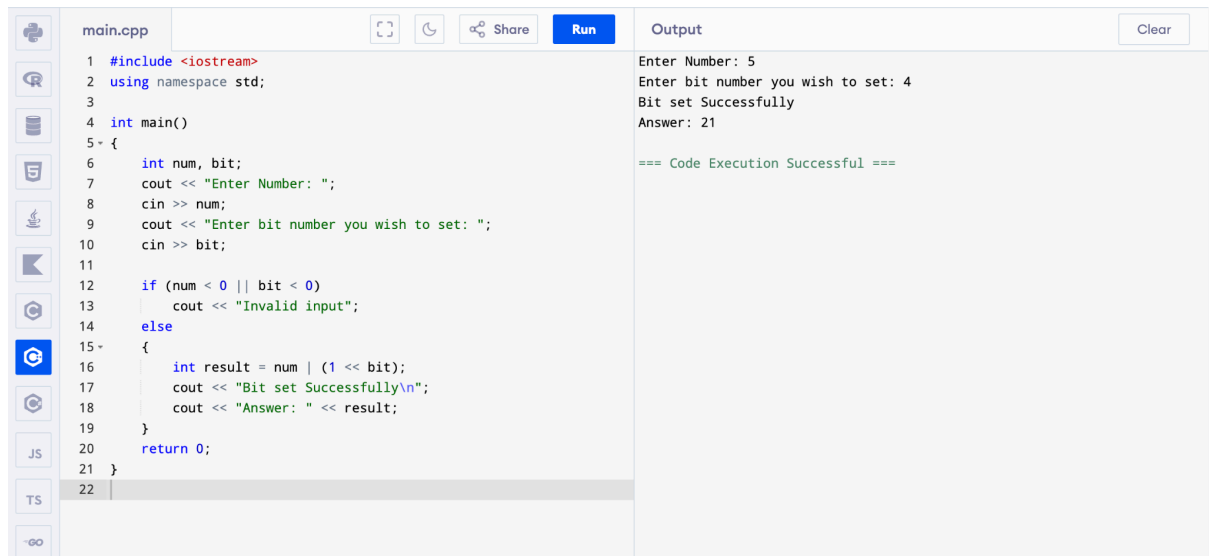
```
main.cpp
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n;
7     cout << "Enter N: ";
8     cin >> n;
9
10    if (n < 0)
11        cout << "Invalid input";
12    else if (n == 0)
13        cout << 0;
14    else if (n == 1)
15        cout << 1;
16    else
17    {
18        int a = 0, b = 1, c;
19        for (int i = 2; i <= n; i++)
20        {
21            c = a + b;
22            a = b;
23            b = c;
24        }
25        cout << b;
26    }
27 }
```

Output

```
Enter N: 8
21

=== Code Execution Successful ===
```

## 2) Set Nth Bit of a Number



```
main.cpp
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int num, bit;
7     cout << "Enter Number: ";
8     cin >> num;
9     cout << "Enter bit number you wish to set: ";
10    cin >> bit;
11
12    if (num < 0 || bit < 0)
13        cout << "Invalid input";
14    else
15    {
16        int result = num | (1 << bit);
17        cout << "Bit set Successfully\n";
18        cout << "Answer: " << result;
19    }
20    return 0;
21 }
```

Output

```
Enter Number: 5
Enter bit number you wish to set: 4
Bit set Successfully
Answer: 21

=== Code Execution Successful ===
```

### 3) Most Frequent Element in an Array

main.cpp

Run

Share

Clear

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n;
7     cout << "Enter size of the array: ";
8     cin >> n;
9
10    if (n <= 0)
11    {
12        cout << "Invalid size";
13        return 0;
14    }
15
16    int arr[100];
17    for (int i = 0; i < n; i++)
18    {
19        cout << "Enter Element " << i + 1 << ": ";
20        cin >> arr[i];
21    }
22
23    int maxCount = 0, element;
24    for (int i = 0; i < n; i++)
25    {
```

Output

Clear

Enter size of the array: 3  
Enter Element 1: 2  
Enter Element 2: 3  
Enter Element 3: 4  
Most occurred number: 2  
  
=== Code Execution Successful ===

### 4) Power of a Number

main.cpp

Run

Share

Clear

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int base, exp;
7     long long result = 1;
8
9     cout << "Input the base: ";
10    cin >> base;
11    cout << "Input the exponent: ";
12    cin >> exp;
13
14    if (exp < 0)
15    {
16        cout << "Negative exponent not supported";
17        return 0;
18    }
19
20    for (int i = 1; i <= exp; i++)
21        result = result * base;
22
23    cout << result;
24    return 0;
25 }
```

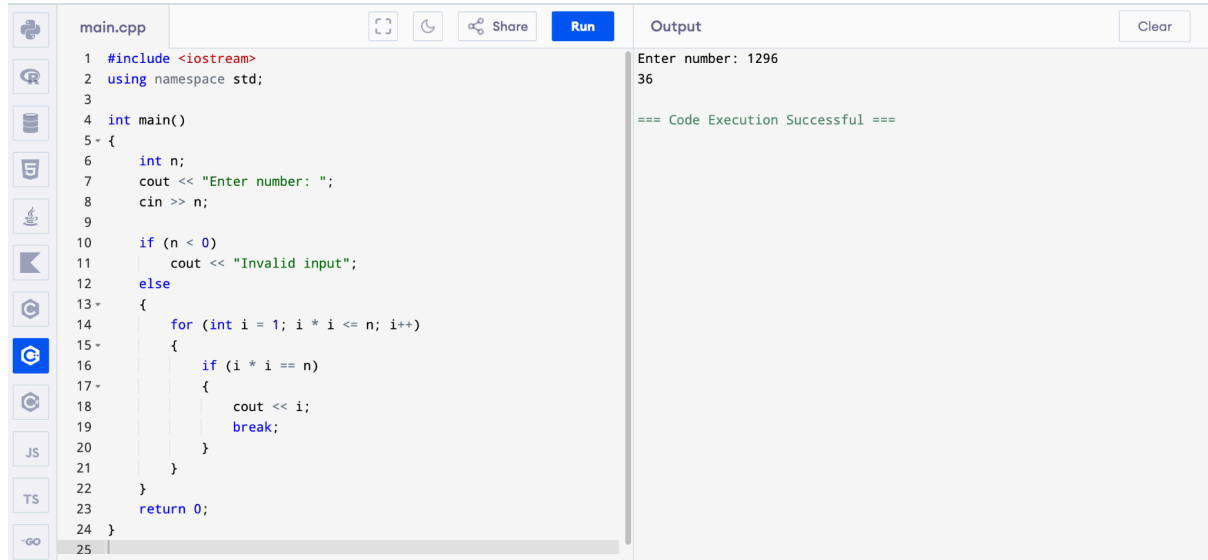
Output

Clear

Input the base: 5  
Input the exponent: 3  
125  
  
=== Code Execution Successful ===

## MEDIUM

### 1) Square Root using IF-ELSE

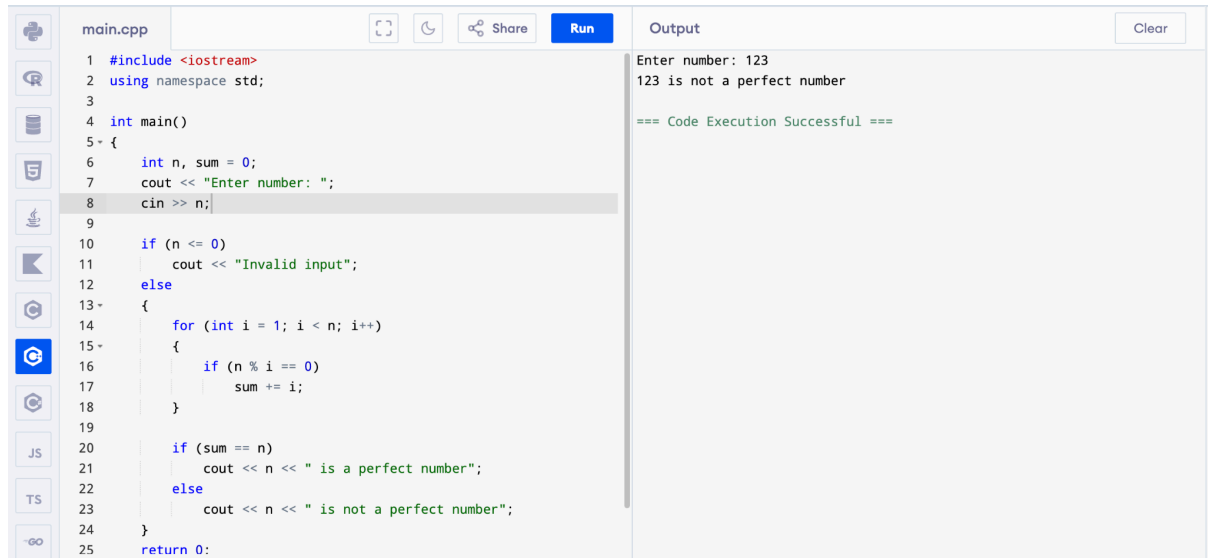


```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n;
7     cout << "Enter number: ";
8     cin >> n;
9
10    if (n < 0)
11        cout << "Invalid input";
12    else
13    {
14        for (int i = 1; i * i <= n; i++)
15        {
16            if (i * i == n)
17            {
18                cout << i;
19                break;
20            }
21        }
22    }
23    return 0;
24 }
```

Output

```
Enter number: 1296
36
=== Code Execution Successful ===
```

### 2) Perfect Number using IF-ELSE



```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n, sum = 0;
7     cout << "Enter number: ";
8     cin >> n;
9
10    if (n <= 0)
11        cout << "Invalid input";
12    else
13    {
14        for (int i = 1; i < n; i++)
15        {
16            if (n % i == 0)
17                sum += i;
18        }
19
20        if (sum == n)
21            cout << n << " is a perfect number";
22        else
23            cout << n << " is not a perfect number";
24    }
25    return 0;
}
```

Output

```
Enter number: 123
123 is not a perfect number
=== Code Execution Successful ===
```

### 3) Smallest Missing Element (WHILE loop)

main.cpp	Output
<pre>1 #include &lt;iostream&gt; 2 using namespace std; 3 4 int main() 5 { 6     int arr[] = {0, 1, 2, 3, 5, 6, 7}; 7     int n = 7; 8     int i = 0; 9 10    while (i &lt; n) 11    { 12        if (arr[i] != i) 13        { 14            cout &lt;&lt; i; 15            break; 16        } 17        i++; 18    } 19    return 0; 20 } 21</pre>	<pre>4 === Code Execution Successful ===</pre>

### 4) Sum of N numbers using FOR loop

main.cpp	Output
<pre>1 #include &lt;iostream&gt; 2 using namespace std; 3 4 int main() 5 { 6     int n, sum = 0, num; 7     cout &lt;&lt; "Enter n: "; 8     cin &gt;&gt; n; 9 10    if (n &lt;= 0) 11        cout &lt;&lt; "Invalid input"; 12    else 13    { 14        for (int i = 1; i &lt;= n; i++) 15        { 16            cin &gt;&gt; num; 17            sum += num; 18        } 19        cout &lt;&lt; "Sum: " &lt;&lt; sum; 20    } 21    return 0; 22 } 23</pre>	<pre>Enter n: 5 1 2 3 4 5 Sum: 15 === Code Execution Successful ===</pre>