Q 1. Write a program to swap to numbers.

```
Code :
          #include <iostream>

             using namespace std;

             int main()

             {
                     int a = 5, b = 10, temp;

                          cout << "Before swapping." << endl;
                            cout << "a = " << a << ", b = " << b << endl;

                              temp = a;
                               a = b;
                                b = temp;

                               cout << "\nAfter swapping." << endl;
                                cout << "a = " << a << ", b = " << b << endl;

    return 0;
}
```

Q 2. Write a program to find the largest number among three numbers entered by the user.

```
Code :
             #include <iostream>
              using namespace std;

             int main()
              {
                  float n1, n2, n3;

                       cout << "Enter three numbers: ";
                          cin >> n1 >> n2 >> n3;

                           if(n1 >= n2 && n1 >= n3)
                                cout << "Largest number: " << n1;
```

```
            if(n2 >= n1 && n2 >= n3)
        cout << "Largest number: " << n2;

                        if(n3 >= n1 && n3 >= n2)
                            cout << "Largest number: " << n3;

    return 0;
}
```

Q 3. Write a program to check whether a year entered by a user is Leap year or not.

```
Code :
            #include <iostream>
              using namespace std;

               int main()
                {
                            int year;

                            cout << "Enter a year: ";
                              cin >> year;

                        if (year % 4 == 0) {
                           if (year % 100 == 0) {
                              if (year % 400 == 0)
                                  cout << year << " is a leap year.";
                         else
                                cout << year << " is not a leap year.";
        }
                    else
                            cout << year << " is a leap year.";
    }
                  else
                        cout << year << " is not a leap year.";

    return 0;
}
```

Q.4 Write a program to display Fibonacci Series upto nth term/(Using loops)

```
Code :
            #include <iostream>
               using namespace std;

                int main()
                     {
                        int n, t1 = 0, t2 = 1, nextTerm = 0;

                           cout << "Enter the number of terms: ";
                             cin >> n;

                               cout << "Fibonacci Series: ";

                                  for (int i = 1; i <= n; ++i) {
                                      // Prints the first two terms.
                                       if(i == 1) {
                                           cout << t1 << ", ";
                           continue;
                    }
                                 if(i == 2) {
                                      cout << t2 << ", ";
                     continue;
                  }
                        nextTerm = t1 + t2;
                           t1 = t2;
                               t2 = nextTerm;

                                  cout << nextTerm << ", ";
    }
    return 0;
}
```

Q.5 Write a program to check whether a number is Prime or Not.

```
Code :
         #include <iostream>
            using namespace std;

               int main()
      {
```

```
            int i, n;
    bool isPrime = true;

              cout << "Enter a positive integer: ";
                 cin >> n;

              // 0 and 1 are not prime numbers
                   if (n == 0 || n == 1) {
                    isPrime = false;
    }
              else {
                      for (i = 2; i <= n / 2; ++i) {
                        if (n % i == 0) {
                          isPrime = false;
                break;
            }
        }
    }
             if (isPrime)
                        cout << n << " is a prime number";
          else
                         cout << n << " is not a prime number";

    return 0;
}
```

Q 6.Print this pattern using loops

For n=5

```
 *
 **
 ***
 ****
*****
```

```
Code :
            #include <iostream>
```

```
                using namespace std;

                void triangle(int n)
            {

                int k = 2 * n - 2;


                       for (int i = 0; i < n; i++) {


                              for (int j = 0; j < k; j++)
                                     cout << " ";

                                                  k = k - 1;


                               for (int j = 0; j <= i; j++) {

                               cout << "* ";
                }


                cout << endl;
        }
}

         int main()
{
        int n = 5;

                triangle(n);
        return 0;
}
```

Q 7 . Write a program that takes n element from the user and display the second largest element of an array.

```
Code :

#include<iostream>
          using namespace std;
```

```
int main ()
{
    int A[10], n, i, j, x;
    cout << "Enter size of array : ";
    cin >> n;
     cout << "Enter elements of array : ";
    for (i = 0; i < n; i++)
        cin >> A[i];
    for (i = 0; i < n; i++)
    {
       for (j = i + 1; j < n; j++)
        {
            if (A[i] < A[j])
            {
                x = A[i];
                A[i] = A[j];
                A[j] = x;
            }
        }
    }
    cout << "Second largest number : " << A[1];
    cout << "\nSecond smallest number : " << A[n - 2];
  return 0;
}
```

Q 8. https://www.hackerrank.com/challenges/array-left-rotation/problem

Code :

```
#include <cmath>

#include <cstdio>

#include <vector>

#include <iostream>

#include <algorithm>

using namespace std;



int main() {
```

```
    int N, d; cin >> N >> d;

    vector<int> v(N);

    for (size_t i = 0; i < v.size(); ++i) {

        cin >> v[i];

    }

    d = d % N;

    for (int i = d; i < N; ++i)

        cout << v[i] << ' ';

    for (int i = 0; i < d; ++i)

        cout << v[i] << ' ';



    return 0;

}
```

Q 9. https://www.hackerrank.com/challenges/grading/problem

Code :

```
#include<iostream>
                    using namespace std;
                    int main() {
                        int n;
                        cin >> n;
                        int a[n];
                        for(int i=0;i<n;i++)
                            {
                            cin>>a[i];
                        }
```

```
    for(int i=0;i<n;i++)
        {
               if(a[i]>=38){
                                                  if((a[i]%5)==3)
                                                                {


           a[i]=a[i]+2;
                                                                }
                                                  if((a[i]%5)==4)
                                                                {


           a[i]=a[i]+1;}
                                                          }

           }
           for(int i=0;i<n;i++)
           {
                  cout<<a[i]<<endl;
                  }
    return 0;
}
```

Q 10. https://www.hackerrank.com/challenges/camelcase/problem

Code:

```
#include <map>
#include <set>
#include <list>
#include <cmath>
#include <ctime>
#include <deque>
#include <queue>
#include <stack>
#include <string>
#include <bitset>
#include <cstdio>
#include <limits>
#include <vector>
```

```
#include <climits>
#include <cstring>
#include <cstdlib>
#include <fstream>
#include <numeric>
#include <sstream>
#include <iostream>
#include <algorithm>
#include <unordered_map>
using namespace std;
int main(){
string s;
cin >> s;
int t=1;
for (int i=0;i<s.length();i++)
if (isupper(s[i]))
t++;
cout<<t<<endl;
return 0;
}
```