Q.1 Write a Program to find the length of a string using a Pointer.
For example,
Input:
Enter any string: hello world

Output:
The length of a string is: 11

Ans:

```
#include <stdio.h>
#include <string.h>


int main() {
    char str[100];
    char *ptr;
    int length = 0;

    printf("Enter any string: ");
    fgets(str, sizeof(str), stdin);
    str[strlen(str) - 1] = '\0';
    ptr = str;

    while (*ptr != '\0') {
        length++;
        ptr++;
    }

    printf("The length of a string is: %d\n", length);

return 0;
}
```

o/p:

```
Enter any string: hello world
The length of a string is: 11


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

Q.2 Write a Program to find cubes of all elements from a given 2D array using Pointer with UDF.
For example,
Input:
Enter array's size: 2

Enter array elements:
a[0][0] = 3
a[0][1] = 2
a[1][0] = 5
a[1][1] = 4

Output:
Cubes of all elements:
9   4
25 64

Ans:

```
// Online C compiler to run C program online
#include<stdio.h>
int number(int *num) {
   return (*num)*(*num)*(*num);
}


int main() {
   int r, c;
   printf("Enter array's size: ");
   scanf("%d", &r);
   c = r;
   int p[r][c];
   printf("Enter array elements:\n");
   for (int i = 0; i < r; i++) {
      for (int j = 0; j < c; j++) {
         printf("a[%d][%d] = ", i, j);
         scanf("%d", &p[i][j]);
      }
   }
   printf("Cubes of all elements:\n");
   for (int i = 0; i < r; i++) {
      for (int j = 0; j < c; j++) {
         printf("%d,", number(&p[i][j]));
      }
   }


   return 0;
}
```

o/p:

```
Enter array's size: 2
Enter array elements:
a[0][0] = 3
a[0][1] = 2
a[1][0] = 5
a[1][1] = 4
Cubes of all elements:
27,8,125,64,

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