Q1. Write a C++ program that asks the user for a positive integer x and then use a do while loop to count down from x to 1. Then check if the number is even print even if the number is odd print odd.

```
Input a number
10
10 is even
9 is odd
8 is even
7 is odd
6 is even
5 is odd
4 is even
3 is odd
2 is even
1 is odd
```

Q2. Modify the Q1 and the program should print 10 random numbers and check which one is even and odd.

Q3. Write a program that uses a for loop to print the following shape of asterisks (*) to the console.

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

Q4. Write a program that uses a for loop to print the following shape to the console.

```
&
*&
**&
***&
****&
```

Q5. Modify Q3 and print a shape like that:

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

Q6. Write a program that uses a for loop to print the following shape of ($) to the console.

```
     $
    $$$
   $$$$$
  $$$$$$$
 $$$$$$$$$
$$$$$$$$$$$
```

Q7. Write a program that will produce the following:

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Q8. Write a C++ program using nested loops to calculate and display the multiplication table (up to 10) for the numbers 1 to 10.

1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10

2 x 1 = 2
2 x 2 = 4
…

Q9. Write a program that gets lowest number, highest number and number of times to repeat from user that repeats display the numbers from lowest to highest.

```
Enter lowest number:
1

Enter highest number:
15

Times to repeat:
3

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
```

Q10. Write a program that will print out the following (**Homework**):

```
1 2 3 4 5 4 3 2 1
  1 2 3 4 3 2 1
    1 2 3 2 1
      1 2 1
        1
```