Lab 2

Part 1:

1-A program to take a character from the user, and then display its ASCII code.

2-Same program but vice versa.

3-A program to take a num from user and display odd or even based on this num.

4-A program to take two numbers and print the sum, subtraction, multiplication.

5-A program to take student degree and calculate grade

6-Multiplication table

Part 2:

1-**A program to store students grades in OOP course**

- take number of student , student grades from user

- print grades

- calculate average for all students grades

2- **Consider an Array of Integer values with size N, having values as in this Example**

7	0	0	0	5	6	7	5	0	7	5	3

Your task will be to write a program find the longest distance between
Two equal cells. In this example. The distance is measured by the number
Of cells- for example, the distance between the first and the fourth cell is
2 (cell 2 and cell 3).
In the example above, the longest distance is between the first 7 and the
10th 7, with a distance of 8 cells, i.e. the number of cells between the 1st
And the 10th 7s.

Note:
- Array values will be taken from the user
- If you have input like 1111111 then the distance is the number of Cells between the first and the last cell.

Bonus :

- **Define array of integer ,take size and data from user**
    1- Write a program to calculate the sum of all elements in an integer array
    2- Write a program to find the maximum element in an integer array
    3- Write a program to reverse the elements of an array without using reverse function
    4- Write a program to count the number of occurrences of a specific element in an array
    5- Write a program to remove duplicate elements from an array.
    6- Write a program to find the second largest element in an array.
    7- Write a program to find the index of the minimum element in an array.

- **How can you count the occurrence of 1 from 1 to 99,999,999 (1 short of 100 million) and total up how many 1s were there.**

  (Convert Numbers to String in Case one and use String Functions to Count 1s, Use Only Mathematical Functions and Numeric values in case 2 and see the difference in performance)
  Is There Any Other Way to Do it in Approximately 1 Second or less