# Assignment 1 (Individual)

1. Write a program that asks for an 8-bit signed number from the user. If the number is -1, exit the program.

- Print out "EVEN parity" , if the total number of 1's in the 8-bit number is even.
- Print out "ODD parity", if the total number of 1's in the 8-bit number is odd.
- Repeat the process until the user enters -1.

For example: If the user enters 7 (0000 0111), the program should print "ODD parity" because it contains an odd number of 1's.

2. Write a program that finds the roots of a quadratic equation entered by the user. Use OOP. Refer to the vector example in the slides. The program should handle complex roots. Tip: create a class called 'QuadraticEquation'. Create a member function called 'Solve'.

3. Write a program that asks for a string (array of characters) from the user. For each character in the string, perform bitwise-XOR with a certain character (known as a key). Print out the encrypted text.

Tip: a string is an array of characters.