1. Suppose you are given (x1, y1), (x2, y2)... (x100, y100) that satisfy the following function:

y = (ax+b)(ax-b),

except that one among these 100 points does not satisfy the function.

Note that a, b are real constants and are not given to you.

Write a program to find out which among these 100 points does not satisfy the function.

Send the program that takes two 100-dim arrays x and y as input and return one index corresponding to the outlier point. Also send a readme file summarizing the logic of your program and the steps to run the program.

2. Write a program to take an array x[n] (of any length) as input and declare if x[n] is a sinusoid or not. If it is sinusoid, determine its digital frequency. Send the program and a readme file summarizing the logic of your program and the steps to run the program.