Assignment Set 1  
Due April 5th

1.1 Write a program with an infinite loop that asks the user for a positive integer number, finds out whether the number is (i) even or odd, (ii) a perfect square, and prints the answer to each of the two questions.

1.2 Write a program that: (i) asks the user for an integer number, e.g., N, (ii) if N is a non-negative number, calculates its factorial, i.e., \( N! = N(N-1)(N-2)\ldots 1 \), (iii) writes to the screen the values of N and its factorial in two columns, (iv) repeats steps (i)-(iii) until the user gives a negative number. Use a separate function that takes N as input and returns its factorial.

- NOTE that the factorial of 0 is defined to be equal to 1 and write the code in such a way that it can account for the possibility that the user gives 0 as the value of N.
Format Requirements for Assignments

For every code you write – no matter how small – as a class assignment:

- Include a multiple-line comment at the top with the following information:
  - The name of the assignment
  - Your name
  - The date you turned in the code

- Insert comments throughout the code: just before every main code element, like a function, a conditional statement, a loop, a set of variable assignments, or print statements etc.

- Turn in a print-out of the code along with print-outs of all possible program outputs both in data and graph form, whenever applicable. Also turn in your answers asked as part of the assignments.

- E-mail me all the source-code files. In the subject line remember to include (i) your name, (ii) the name or number of the exercise.