PROG8420 – Programming for Big Data

Assignment 03

Submission: Individual

Requirements

For the following problem:

- Each module must be written in Python and submitted as an executable .py file (NOT the Jupyter notebook file)
- Each module must have header comments at the top of the program that include:
  - The Course
  - The assignment number
  - The submission or creation date
  - The author's name
- Comments should be used to help explain your code if it may need explanation

Question 1:

An integer number is said to be a perfect number if its factors, including 1 (but not the number itself), sum to the number. For example, 6 is a perfect number, because 6 = 1 + 2 + 3.

Write function `Perfect` that determines whether parameter value is a perfect number. Use this method to determines and displays all the perfect numbers between 2 and 1000.

Enhance the written code so that it displays the factors of each perfect number to confirm that the number is indeed perfect.

Question 2:

Write the code for two-player Tic-Tac-Toe game (see https://en.wikipedia.org/wiki/Tic-tac-toe for more information about the game). You can use nine separate variables to track the contents of the game's squares or come up with a better code using lists or something similar. Display which player won the game or a message if it is a draw game.

Submit

Submit the assignment file into the appropriate folder in eConestoga.