Programming Assignment #1

Points Possible: 20

Due Date: Friday, September 13 by 11:59 pm

Read the instructions at least twice, to ensure you follow it. Failure to follow the instructions will result in point deductions.

Instructions:

You can work in teams of up to three or individually, up to you. Submit just one file: **Programming Assignment 1-<Name of Submitter>.py**. Example: Programming Assignment 1-John Doe.py assuming John Doe is the person submitting the file on BeachBoard. Only submission via BeachBoard will be accepted.

That file should contain all of your answers (which should be in Python code).

That file should also be executable and display all of your answers via the following command in the Python command prompt:
exec(open("<Your Filename>.py").read())

Example:
exec(open("Programming Assignment 1-John Doe.py").read())

A part of my testing will be executing that command, so it is important that that command work with your Python file and display the answers.

Be sure to also type in your name and the names of your team members within the file, at the top. When typing your Python code, clearly indicate the question number above it so I know which question you're answering. You should write them in your file as Python comments.

Failure to do any of the above will result in point deductions. No exceptions.

1. (2 points)
   Write a Python expression to find the number of seconds in a century. You can assume one year has 365 days. Save the value to a variable called seconds_in_century. Then print it.

2. (2 points)
   Write a Python expression to find the remainder of 5789248 divided by 6 by using Python's modulus operator. Save the value to a variable called remainder_with_mod. Then print it.

3. (4 points)
   Write a Python expression to find the remainder of 5789248 divided by 6 without using Python's modulus operator. Instead, you must use the floor division (//) operator. Save the value to a variable called remainder_without_mod.

   If you get a decimal value close to what you're looking for, you can import the math library and use its "ceil" function. Print the result.

4. (4 points)
   Write a comprehension over {1, 3, 5, 7, 11} whose value is the set consisting of their fourth power minus 2. Print the result.

5. (4 points)
   Write a comprehension over [11, -2, 8, 15, 22] whose value is the list consisting of the cube minus the value's index. Assume that the index starts at zero and assign variable M to be the list [11, -2, 8, 15, 22]. Print the result.

6. (4 points)
   Write a Python expression that will give the intersection of the following two sets:
   First Set: the cube of numbers from 1 to 30.
   Second Set: the tripling of numbers from 1 to 30

   Then print the resulting set.

   You cannot manually write out the numbers from 1 to 30, you must use a built-in Python function that will do that for you.