PYTHON PROGRAMMING ASSIGNMENT SET 01

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Ferdowsi University of Mashhad   March 05, 2022

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Submission Deadline: March 12, 2022, 00:00 _____

1- The provided code stub reads and integer, n ,from STDIN. For all non-negative $i < n$ integers print i^2.

Input Format:

The first and only line contains the integer, n.

Example $n = 3$

The list of non-negative integers that are less than $n = 3$ is [0, 1, 2] Print the square of each number on a separate line.

0

1

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2- Given an integer, n , perform the following conditional actions:
- If n is odd, print Weird
- If n is even and in the inclusive range of 2 to 5, print Not Weird
- If n is even and in the inclusive range of 6 to 20, print Weird
- If n is even and greater than 20, print Not Weird

3- An extra day is added to the calendar almost every four years as February 29, and the day is called a leap day. It corrects the calendar for the fact that our planet takes approximately 365.25 days to orbit the sun. A leap year contains a leap day.

In the Gregorian calendar, three conditions are used to identify leap years:

- The year can be evenly divided by 4, is a leap year, unless:
    - The year can be evenly divided by 100, it is NOT a leap year, unless:
        - The year is also evenly divisible by 400. Then it is a leap year.

This means that in the Gregorian calendar, the years 2000 and 2400 are leap years, while 1800, 1900, 2100, 2200, 2300 and 2500 are NOT leap years

task - Given a year, determine whether it is a leap year. If it is a leap year, return the Boolean True, otherwise return False.

Note that the code stub provided reads from STDIN and passes arguments to the is_leap function. It is only necessary to complete the is_leap function.

4- Given a string and a non-negative int n, return a larger string that is n copies of the original string.

string_times('Hi', 2) → 'HiHi'

string_times('Hi', 3) → 'HiHiHi'

string_times('Hi', 1) → 'Hi'

5- Given a non-empty string like "Code" return a string like "CCoCodCode".

string_splosion('Code') → 'CCoCodCode'

string_splosion('abc') → 'aababc'

string_splosion('ab') → 'aab'

6- Given an array of ints, return True if one of the first 4 elements in the array is a 9. The array length may be less than 4.
array_front9([1, 2, 9, 3, 4]) → True

array_front9([1, 2, 3, 4, 9]) → False