

Assignment #8

1. Print all of the leap years from 1900 to 2100. A leap year is evenly divisible by four.

Leap Years

This program prints all of the leap years from 1900 to 2100.

```
1904 1908 1912 1916 1920 1924 1928 1932 1936 1940 1944 1948 1952 1956 1960 1964 1968
1972 1976 1980 1984 1988 1992 1996 2000 2004 2008 2012 2016 2020 2024 2028 2032 2036
2040 2044 2048 2052 2056 2060 2064 2068 2072 2076 2080 2084 2088 2092 2096
```

2. Revise Assignment 7-6, Celcius to Fahrenheit conversion table, using a **FOR** loop, and increments of 5, from -100 to 100
3. Revise Assignment 7-8, using a **FOR** loop
4. The square of a number can be found by adding successive odd integers. For example: to find 4^2 , add the first four odd integers:

$$4^2 = 1 + 3 + 5 + 7 = 16$$

To find 6^2 , add the first six odd integers:

$$6^2 = 1 + 3 + 5 + 7 + 9 + 11 = 36$$

Create a program that asks for a number and then uses a **FOR loop** to calculate the square using this method.

Square Calculator

The square of a number can be found by adding successive odd integers.

Enter a number: 7

$$7**2 = 1 + 3 + 5 + 7 + 9 + 11 + 13 = 49$$

5. Write a program that accepts a length and width of a rectangle and then draws two rectangles of those dimensions on the screen, using asterisks. One of the rectangles is filled in, the other isn't. Put this program in a while loop asking the user if they would like to rerun the program again.

```
Rectangle Maker
-----

Enter the length: 6
Enter the width: 4

*****
*****
*****
*****

*****
*      *
*      *
*      *
*****

Would you like to run the program again? (Y/N): Y

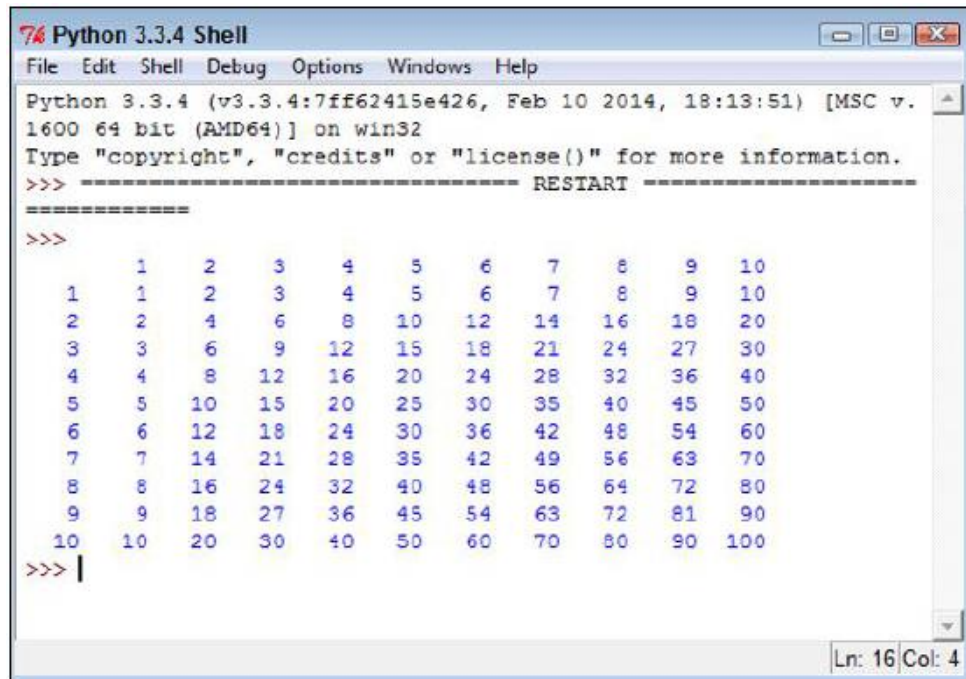
Enter the length: 8
Enter the width: 4

*****
*****
*****
*****

*****
*      *
*      *
*      *
*****

Would you like to run the program again? (Y/N): N
```

6. Write a program that will display the multiplication tables up to 10, as shown below.



```
Python 3.3.4 Shell
File Edit Shell Debug Options Windows Help
Python 3.3.4 (v3.3.4:7ff62415e426, Feb 10 2014, 18:13:51) [MSC v.
1600 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ----- RESTART -----
>>>
      1   2   3   4   5   6   7   8   9  10
1  1   2   3   4   5   6   7   8   9  10
2  2   4   6   8  10  12  14  16  18  20
3  3   6   9  12  15  18  21  24  27  30
4  4   8  12  16  20  24  28  32  36  40
5  5  10  15  20  25  30  35  40  45  50
6  6  12  18  24  30  36  42  48  54  60
7  7  14  21  28  35  42  49  56  63  70
8  8  16  24  32  40  48  56  64  72  80
9  9  18  27  36  45  54  63  72  81  90
10 10 20 30 40 50 60 70 80 90 100
>>> |
```

Ln: 16 Col: 4

7. Create a program that asks the user to input a series of numbers. The user should be able to enter as many numbers as they want (until 0 is entered). The program will then print the Sum of the numbers and the average