COMP 141

Saving Previous Values in a Loop
(Sliding Window Technique)

Rhodes College

Announcements

- Solutions to Nested Loop lab in Box folder
  - drawStars.py, TurtleFun.py
- Reminders
  - Program 5 due Thursday, October 17th by 11:55pm

Practice from Last Time

Modify the Prime Numbers code given in class today (in Box.com folder called `allPrimes.py`) to print out the first 50 prime numbers, rather than just the prime numbers less than 100.

Once you get that working, make your output look like:

```
  2   3   5   7  11  13  17  19  23  29
 31  37  41  43  47  53  59  61  67  71
 73  79  83  89  97 101 103 107 109 113
127 131 137 139 149 151 157 163 167 173
179 181 191 193 197 199 211 223 227 229
```

Hint: `format(i, '4d')` allows you to format i (an integer value) to use exactly 4 digits

Class Example

Use a nested loop to draw the following output.

```
*******
******
*****
****
***
**
*
```

How many rows?

How many stars in 1st row?

How many less stars in next row?

Practice

Work in groups of 2-3 people to write code that will draw the following Evergreen Tree.

Hints:

-You will need a nested loop.

-Count the number of **stars** and the number of **blank spaces** in each line and see how they change.

-The trunk of the tree is drawn **after** the loops complete.

```
   *
  ***
 *****
*******
*********
  ***
  ***
```

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Saving Previous Value in Loop

You may need to hold onto a previous input for a calculation later in a loop.

```
import random

prev_roll = random.randint(1, 6)
curr_roll = random.randint(1, 6)
print("Previous = ", prev_roll, "current = ", curr_roll)
while not(prev_roll == 1 and curr_roll == 1):
    prev_roll = curr_roll
    curr_roll = random.randint(1, 6)
    print("Previous = ", prev_roll, "current = ", curr_roll)
```

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Saving Previous Value in Loop

Input: 29 23 19 17 7 1 1

```
prev = int(input("Number? "))
curr = int(input("Number? "))
diff = prev - curr
while diff != 0:
    print("Difference = ", diff)
    prev = curr
    curr = int(input("Number? "))
    diff = prev - curr
print("Done")
```

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In-Class Lab

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