

COMP 141

Saving Previous Values in a Loop
(Sliding Window Technique)



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Announcements

- Solutions to Nested Loop lab in Box folder
 - drawStars.py, TurtleFun.py
- Reminders
 - Program 5 due Thursday, March 19th by 11:55pm

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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

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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?

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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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