CSCI 127: Joy and Beauty of Data

Lecture 3: Intro to Python and Data Types

Reese Pearsall Summer 2021

https://reesep.github.io/classes/summer2021/127/main.html

Announcements

Lab 1 due Wednesday 5/12 (tomorrow) 11:59 PM

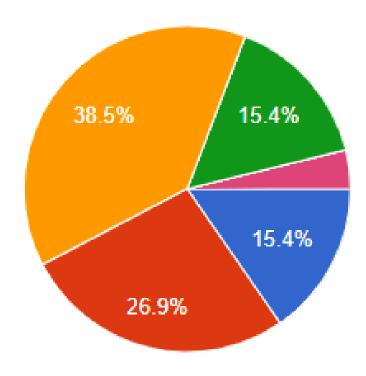
- -> After today, you will be able to finish it
- -> A video has been posted that goes over the assignment

Office Hours and Virtual Help Sessions moving to Zoom instead of Webex

All times and due dates are in **MOUNTAIN TIME**

Today

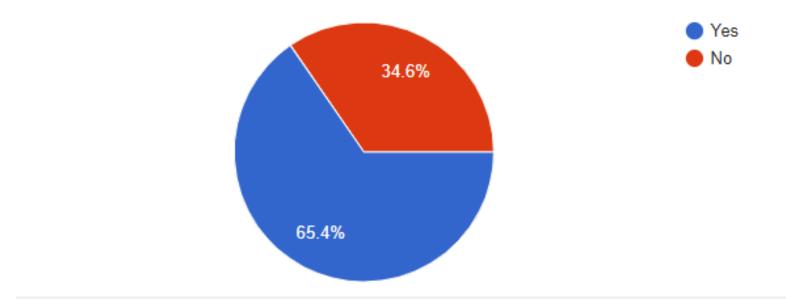
Installing Python, Data Types, Variables, User Input



- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student
- High School student

Have you taken a computer programming class before?

26 responses



Most people seem to prefer asynchronous (I am glad to hear this ©)

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Lots of people seem to not enjoy online classes (hard time learning, focusing, procrastination, motivation, ...)

I understand your concerns (I feel the same way!)... I will keep this in mind ©

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Lots of people in this class are also working full time or part time jobs I don't want this class to interfere with that!

Python Installation

I will on Windows, but the process on Mac is very similar

(Wednesday) Announcements

Lab 1 Due TONIGHT @ 11:59 PM (this is mountain time) -> A video has been posted that goes over the assignment

Today

Formatting Outputs, Intro to Functions

When you learn how display hello world in Python



Integers (whole numbers) int

Floating Point Numbers (decimals) float

Strings (words, or anything surrounded in "") str

There are more Data types we will talk about later

7

7 Integer

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"Reese"

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String

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This is a variable, it could be int, string, or float

Operators

Add / Concatenation (+)

Power (**)

Subtraction (-)

Modulus (%) (Remainder)

Multiplication (*)

Increment (+=) x += 1 <-> x = x + 1

Division (/)

Decrement (-=) x -= 1 <-> x = x - 1

Integer Division (//)

User Input

```
variable name = input("Enter prompt here")
```

Note: the resulting value will **always** be a string

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More practice

Change Counter Program

Write a program that will ask for the number of quarters, dimes, nickels and pennies. The program will calculate the total value of that change.

Cost per square inch for a Pizza

Write a program that will calculate the cost per square inch of a circular pizza, given its diameter (inches) and price.

The formula for area of a circle is (pi)*r^2

Formatting

Formatting

1 2 3 4 5 6 7 8 9 10

Left align with 10 spaces of padding {:<10}.format("hello")

Right align with 10 spaces of padding {:>10}.format("hello")

Center with 10 spaces of padding {:^10}.format("dogs")

d o g s

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Truncating decimal places

num = 37.22222222

Only allow 3 decimal places: "{:.3f}".format(num)