

Introduction to Python (Part 2)

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Last Week Review

1. Print Statements
2. Variables
 - a. Integers (whole numbers)
 - b. Floats (decimal numbers)
 - c. Strings (always in quotes)
 - d. Booleans (True or False)
 - e. Lists
3. Arithmetic in Python
4. Boolean Logic
5. Lists

Popular Question: My Job

My Role: “Software Engineer (back-end)”

My Technologies: Java, SQL

Daily Schedule: Standup meeting, complete assigned tasks, pair program

Input/Output

Right now we can print something in our program

What if we want the user to be able to say something back to us?



Storing input in a variable

```
my_variable = input("Prompt the user to give you some information here")
```



Note: You can put any text in quotation marks to prompt the user

Input and Output in Repl.it

If Statement

What if we only want something to happen only if a certain condition is true?

Ex:

If you have a puppy...

then you should buy dog food

If you have to be somewhere at 8am

then you should set an alarm before then

Syntax

```
have_puppy = True

if have_puppy:
    print("You have a puppy")
```

This will print “You have a puppy” because the have_puppy variable is True

Else Statement

What if we only want something to happen only if a certain condition is true?

Ex:

If you have a puppy...

then you should buy dog food

Otherwise

don't buy dog food

Syntax

```
max_weight = 10000

truck_weight = 5000

if truck_weight > max_weight:
    print("The truck exceeds the weight limit!!!")
else:
    print("You may proceed")
```

Conditionals in Repl.it

Loops

While loops vs For Loops

For Loop

What if we want to print every item in a list???

Ex: Make a grocery list and print every item in it

Syntax

```
grocery_list = ["apples, oatmeal, almonds"]  
  
for food in grocery_list:  
    print(food)
```

Loops in Repl.it

Break (10 minutes)

Functions

Assume we are given these instructions:

Say happy birthday to Michaela.

Say how old she is turning.

Say that you hope she has an amazing birthday.

Do the same for Ivan, Sam, Jorge, Sandesh, and Isabel

Functions in Repl.it

Review

1. Input/Output
2. Conditionals
 - a. if statements
 - b. else statements
3. Loops
 - a. while loops
 - b. for loops
4. Functions

Practice Exercises

Practice Exercise 1

1. Ask the user for a food
2. Ask the user for a city
3. Ask the user for a person
4. Print “I want to eat (food) in (city) with (person)”

Practice Exercise 2

1. Ask the user what day of the week it is
2. If it's Monday, print "Happy Monday"
3. If it's Friday, print "It's almost the weekend"
4. If it's Saturday, print "It's the weekend!!!"

Practice Exercise 3 (Challenging!!!)

1. Given a list of numbers $z = [46, 612, 44, 305, 487]$
2. Create a program that USES A FOR LOOP and calculates the average of all the numbers (The average is all of the numbers added together divided by the amount of numbers you added together)

```
z = [46, 612, 44, 305, 487]
total = 0

for num in z:
    # write your code here

average = total / 5
print(average)
```

Practice Exercise 4

1. Create a function called `area_calculator` that takes in a base and a height
2. Calculate the area by multiplying `base * height` and printing out the answer

Questions

External Libraries in Python

Approximate Number: 137,000

Math Library

What if we wanted to calculate the square root of a number?

I don't know how to do that, but someone did it for us!

Repl.it External Libraries