

# Week 2 day **one**

This week we will work on : Working With Strings

1. Working With Numbers
  2. Getting Input From Users
- 
1. Building a Basic Calculator
  2. Mad Libs Game

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## ▼ Review

create variables for the following :

1. age
2. name
3. song
4. food
5. number

now include the variables you just made print in the following...

Once upon a time, there was a [age] old coder named [name].

[name] liked to hum the song [song] while coding. It was so annoying that their teammates would throw [food] until [name] would stop singing.

Still, [name] was the best coder on the team and could write [number] lines of code every day. Maybe [song] was [name]'s secret power?

No one will ever know.

## quick review question:

What is syntax ? What is an algorithm?

```
1  age = 16
2  name = "Bull"
3  song = "deee"
4  food ="hamburger"
5  number = 34
```

```

6 # print("Once upon a time, there was a " + age+ " old coder named [name]".
7
8 # [name] liked to hum the song [song] while coding. It was so annoying that their teammates would
9
10 # Still, [name] was the best coder on the team and could write [number] lines of code every day. I
11
12 # No one will ever know.")
13 # print("Once upon a time, there was an old coder named {} who
14
15 # liked to hum the song {} while coding. It was so annoying that their teammates would throw {} t
16
17 # Still, {} was the best coder on the team and could write {} lines of code every day. Maybe {} w
18
19 # No one will ever know.".format(age, name, song, food,name, name, number, name, name))
20

```

## ▼ working with strings

```

1 # strings are nothing but plain text
2 #what does this do?
3 print("Giraffe \n academy")
4

```

```

Giraffe
academy

```

```

1 # or this
2 phrase = "python learning is ok" # string variable
3 print(phrase + " is cool")
4 #what does the + sign do? What is it called?
5 #concatenation means using a plus sign to join

```

```
python learning is ok is cool
```

```

1 #what if I wanted to get the length of a phrase?
2 print(len(phrase))

```

```
21
```

```

1 #what if I wanted to make the letters in the variable upper case or lower?
2 print(phrase.upper())
3 print(phrase.lower())
4 name = "Marvin Evins"
5 #upper your name
6 name.upper()
7 #lower your name
8

```

```
PYTHON LEARNING IS OK
```

```
1 #what if I wanted to check and see if the phrase was all lower or upper case?
2 # print(name.islower())
3 # print(name.isupper())
4
```

```
1 #What if I wanted to get one letter of the phrase
2 print(name[-1])
3 #find the 4th letter in your name
4 #find the 8th letter in your name
5 # -1 gives the last letter/character in name
6
```

```
s
```

```
1 #string functions
2 #len() finds the length of your string
3 #upper() makes all letters upper case
4 #lower() makes all letters lower case
```

```
1 #how about replacing words in our variable
2 # name = "Marvin Evins"
3 print(name.replace("Evins","Rodgers"))
4 print(name.replace("Marvin", "Steve"))
5
```

```
Marvin Rodgers
Steve Evins
```

```
1 print(name[2:6])
2
```

```
rvin
```

```
1 #what if I wanted to get the last letter of the variable?
```

```
1 #what if I wanted to join two variables together in a sentence?
2 new_name = "Isaac"
3 last_name = "Newton"
4 print(new_name + " " + last_name)
```

```
Isaac Newton
```

```
1 #challenge: find a copy of the first paragraph of the declaration of independence and upper case it
2
```

The names you use when creating these labels need to follow a few rules:

1. Names can not start with a number.
2. There can be no spaces in the name, use \_ instead.

3. Can't use any of these symbols :'",<>/?!()!@#\$\$%^&\*~--+
4. It's considered best practice (PEP8) that names are lowercase.
5. Avoid using the characters 'l' (lowercase letter el), 'O' (uppercase letter oh), or 'I' (uppercase letter eye) as single character variable names.
6. Avoid using words that have special meaning in Python like "list" and "str"

## ➤ Working with numbers **bold text**

We'll learn about the following topics:

1. Types of Numbers in Python
2. Basic Arithmetic
3. Differences between classic division and floor division

Python has various "types" of numbers (numeric literals).

1. We'll mainly focus on integers and floating point numbers. Integers are just whole numbers, positive or negative. For example: 2 and -2 are examples of integers.
2. Floating point numbers in Python are notable because they have a decimal point in them, or use an exponential (e) to define the number. For example 2.0 and -2.1 are examples of floating point numbers. 4E2 (4 times 10 to the power of 2) is also an example of a floating point number in Python.

```
1 #addition
2 2+2

4
```

```
1 #multiplication
2 3*4

12
```

```
1 #division
2 12/6

2.0
```

```
1 #modulo
2 #7%3
3 155%3

2
```

```
1 #powers
2 # 4**2
```

```

2 # 4**3
3 print(pow(4,3))

64.0

1 #get the max and min of a number
2 print(max(4,56,67,85,89,93))
3 print(min(4,56,67,85,89,93))

93
4

1 #round a number
2 print(round(95.2444))

95

1 # absolute value
2 print(abs(10))

10

1 # order of operations
2 #PEMDAS
3 (4 + 5) / 9 -8 + 8
4

1.0

1 #to do more you need to import special math libraries from python
2 #from math import *
3 #this goes out and grabs some different math functions we can use
4 #floor method
5 #ceil method
6 #sqrt method
7 from math import * #import everthing
8 print(floor(95.76666))
9 print(ceil(98.3333))
10 print(sqrt(54))

95
99
7.3484692283495345

```

So what have we learned? We learned some of the basics of numbers in Python. We also learned how to do arithmetic and use Python as a basic calculator. We then wrapped it up with learning about Variable Assignment in Python.

## ▼ Getting Input from users

```
1 #how do we get input from users?
```

```
1 input("what is your name?")
```

```
what is your name?name  
'name'
```

```
1 # first_name = input("what is your first name")  
2 # last name = input("what is your last name")  
3 # print( first_name + " " + last_name)
```

## ▼ basic math calculator

```
1 #ask the user for 2 numbers  
2 #  
3 # print out a statement where you:  
4 # add them together  
5 #multiply them  
6 # find the max number of the two numbers  
7 # find the remainder of the numbers  
8 #round one number  
9
```

```
1
```

## ▼ mad libs game

```
1 print("Roses are {color}")  
2 print("{plural noun} are blue")  
3 print("I love {celebrity}")
```

```
Roses are {color}  
{plural noun} are blue  
I love {celebrity}
```

On to [codehs.com](https://www.codehs.com)

