

An Introduction to STEM Programming with Python 3 – Chapter 3 Getting Values From Users

By
James M. Reneau, Ph.D.
jreneau@shawnee.edu

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Shawnee State
University

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In this video we will cover:

- ✓ The input function and how to get a string value from a user.
- ✓ Converting a string to an integer or float.
- ✓ Converting an integer or float to a string value.

Getting a string from a user.

- To get a string from a user we will use the `input()` function.
- `input` returns the string that the user enters.
- You may assign the value to a variable for your program to use.
- It has two forms:

```
# Without a specific prompt
```

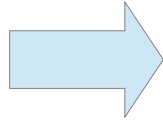
```
var = input()
```

```
# With a prompt - BETTER
```

```
var = input("prompt message>")
```

Getting a String from a User

```
1 a = input("Enter your name>")           Enter your name>jim
2 print("it is great to meet you,",      it is great to meet you, jim .
  a, ".")
```



Changing a String to an Integer

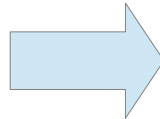
- Remember: The input function returns a string. You will need to convert to a numeric type to be able to use it as a number.
- The `int()` function will convert a string to an integer, if it can.
- Will throw error if it can't.
- The `int()` function can also be used to remove the decimal part of a float.

Changing a String to a Float

- The `float()` function will convert a string to an floating point number, if it can.
- Will throw error if it can't.
- The `float()` function can also be used to force an integer to become a float.

Changing a String

```
1 w = input("Enter your weight  
in pounds>")  
2 w = int(w) # change string  
to int  
3 p = input("Percent to lose>")  
4 p = float(p)  
5 neww = w - w * p  
6 print("Your new weight would  
be ", neww, ".")
```



```
Enter your weight in pounds>200  
Percent to lose>.05  
Your new weight would be  
190.0 .
```

- SECOND RUN

```
Enter your weight in  
pounds>nunya  
Traceback (most recent call  
last):  
  File "changingastring.py",  
  line 2, in <module>  
    w = int(w) # change string  
to int  
ValueError: invalid literal for  
int() with base 10: 'nunya'
```

Changing Something to a String

- In chapter one, you saw that we could not add numbers and strings. The `+` operator does addition OR concatenation.
- Sometimes we will want to force a number to become a string.
- We use the `str()` function to do this.
- The `str()` function works with more types than integer or floats, but you have not seen them, yet.

Thank you

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