

Programming Basics


Variables

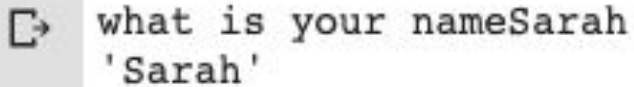
Input

Vocabulary

- **Input** - information entering a computer program (often provided by the user)
- **Output** - information the computer program sends out (print “hello” was outputting “hello” to the screen).

Instructions

1. Add another code box using the +Code button on the top left + Code
2. Type `input("What is your name")` 
3. Run the code. What happens? `what is your name`
4. Type something in the box. What happens? `what is your name`



```
what is your nameSarah
'Sarah'
```

Variables

DISCUSSION

Where have you heard the term “variable” before, and what has it meant?

- What does a variable usually mean in mathematics?
- What does it mean for something to be variable?

Vocabulary

- **Variable** - a name that holds a value. The value can change. In Python, that value can be a string, a number, or many other types of values.

Example

1. Click on “new code block”
2. Type `v = "today"`
3. Click run.
4. Print the contents of `v` to the screen.

```
v = "today"  
print(v)
```


Understanding check

- Variables in Python will always hold only the last thing you gave them; they don't keep any history. What do you think this will print to the screen?

```
v = "Hello"
```

```
v = "Goodbye"
```

```
print(v)
```

Understanding check

- It's possible to set variables to whatever a function outputs. The `input` function gives whatever the user typed. What do you expect this program to print?

```
v = input("What would you like to  
say? ")  
print(v)
```

Rules for Variable Names in python

- Variables must start with a letter
- After that, you can use whatever numbers, etc. you want except spaces.
- Typically Python programmers will put underscores between terms, for example: `first_name` or `a_nice_variable`
- There are some words that Python has reserved that you can't use for variable names. You'll notice that you've probably used one of those when the word changes color after you type that word.