

Getting Started

CAC 180
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Vocabulary

- Statement
- Data type
- Variable
- Assignment
- Input
- Output
- Expression

Statement

- This is a declaration you are making to the computer
- It is a command that you are instructing the computer to execute
- One statement per line
 - Other languages (e.g., Java, C#, c++) have a semi-colon at the end of a statement (like a period)
 - This allows a programmer to write more than one command on a line, but for readability, programmers generally write one command per line

Data Type

- String: letters or words, denoted by single or double quotes
- int: whole numbers
- float: decimal numbers
- boolean: True or False
- You can change types...a string can be turned into a number: `int(myString)`
- A number can be turned into a string: `str(myNumber)`



Variable



- Named space in memory to store information
- Think about it like a locker: you know the number of your locker, when you need a book, you go to your number locker, and you take the book you need
- Variables can store a variety of information such as strings, integers, floats, and boolean values

Variable Names

This is HUGE!

- You get to name your variable...but you have to follow some rules
 1. Must start with a letter or underscore: typically a lowercase letter, capital letter and all caps have different meanings
 2. Can only be one word: use Pascal casing or underscore to combine words
 3. Must not be a reserved word: if the name you type appears in an unusual color, it is reserved
 4. Variable name can only be used once (kind of confusing...will describe more later)

Assignment

- This the idea of assigning a value to your variable (putting the book in your locker)
- Format:

variable_name = value

name = 'Winchester'

count = 9

average = 4.5

Input

- Prompts the user to enter information
- You're collecting information from the user...you have to remember that information somewhere
- Where do you put it?

Input

- Prompts the user to enter information
- You're collecting information from the user...you have to remember that information somewhere
- Where do you put it?
 - Yes! In a variable! =)
- Format:

You do not have
to include a prompt

```
name = input('Please enter your name: ')
```

Output

- Super easy...tell the computer to print
- Format:

`print()` - prints a blank line

`print('apple')` - prints the word apple and then goes to the next line

`print('apple', end = ' ')`
`print('pie')` - prints apple pie

`year = 2020`
`print('The year is', year)`

Words in quotes are called string literals - you are telling the computer to literally print that value

Expressions

- An expression is any calculation you command the computer to perform
- Examples:

`average = (5+3+7)/3`

`fullName = firstName + ' ' + lastName`

Expressions

- Addition (words and numbers): +
- Subtraction: -
- Multiplication: *
- Division: /
- Modulus: %
- Integer or Floor Division: //

Practice

1. Print "Hello world!"
2. Ask the user to enter his/her name, print the user's name
3. Ask the user to enter his/her name, print "Hello, _____!"
4. Ask the user to enter his/her name and the date. Print "Hello, _____. Today is _____."

Next Class

- Friday: lab
- Monday:
 - Read ZyBook Chapters 1 and 2