

COMP 141 Lecture 4

- CS Fact of the day:
- If automobile technology developed at the same pace as computer technology, a 2017 Ford Mustang Ecoboost would have
 - 660,764,192 horsepower
 - Go from 0-60 mph in 0.0034 seconds
 - Get about 3,666,652 miles per gallon
 - Cost \$4,471

Warmup: What is the output of this program?

```
a = 4  
b = 2  
c = b + 10  
b = c - 5  
a = a + 1  
print(a, b, c)
```

```
a = -a  
b = a + b  
c = c - b  
print(a, b, c)
```

000000001100001

a

97

0.0000058

Data types

- Integers (`int`)
 - Whole numbers; may be negative.
- Floating point numbers (`float`)
 - Any number with a decimal point; may be negative.
- Strings
 - Any sequence of letters, numbers, or punctuation.
 - String literals are always surrounded by quotation marks.

Input from the keyboard

- Use a variation of a variable assignment:
- For integers:
`variable = int(input("Prompt"))`
- For floats:
`variable = float(input("Prompt"))`
- For strings:
`variable = input("Prompt")`

```
variable = input("Prompt")
```

- When Python sees an input statement, the program pauses.
- The "prompt" is displayed on the screen.
- The user types something at the keyboard.
 - What the user types must be of the right data type.
- After the user presses ENTER, whatever the user types is placed into the variable.
- Program continues on the next line.

Terminology

- A *literal* is a piece of data that you type directly into your program's code.
 - Ex: **6**, **9.25**, **"Blah blah blah"**
- A *variable* is a placeholder for a piece of data.
- Every literal and variable in a program has a **data type**.

Comments

- Lines that Python ignores completely.
- Used to tell a reader of your program what the program is doing.
- For any line that has a # sign, Python will ignore everything to the right of the #.

End of Introductory Stuff!

- Key concepts: algorithms, variables, data types (int/float/string), comments, literals
- Python statements you should understand:
 - print
 - input
 - math calculations

STAND BACK



**I'M GOING TO TRY
SCIENCE**