

Unit Plan: Introduction of Python

Topic of the Lesson: Variable and User Input

Grade and Content: 10th, 11th, and 12th grade, CSP

Learning Objectives

1. Students will be able to create variables with proper names in Python(review).
2. Students will be able to program code to get user input.

NYS standards:

9-12.CT.1: Create a simple digital model that makes predictions of outcomes.

9-12.CT.4, 9-12.CT.5, 9-12.CT.6, 9-12.CT.7, 9-12.CT.8, 9-12.CT.9, 9-12.CT.10
Algorithms and Programming

Content-specific vocabulary: variable, user input

Materials/Resources:

<https://books.trinket.io/pfe/02-variables.html>

Assessments:

Journal/ programming log

Warm-up/ Mini lesson:

(#2 – 4) Teacher will review the variable types.

(#5-6) Turn and Talk: What is the “Syntax Error” for the name in each statement?

76trombones is illegal because it begins with a number. more@ is illegal because it contains an illegal character, @. “class” is one of the reserved words by Python.

Activity / Sequence of Lesson:

(#7 – 8) Teacher will model operators and modulus.

(#9) Group work. Predict the outcome.

1 is int. 2 and 3 are float. 4 is an error.

(#10 – 11) Live coding:

```
>>> input = input()  
Some silly stuff  
>>> print(input)  
Some silly stuff
```

```
>>> name = input('What is your name?\n')  
What is your name?  
Chuck  
>>> print(name)  
Chuck
```

(#12) Exercise 2 and presentation

Code sample:

```
name = input('Enter your name...\n')  
print('Hello ' + name)
```

(#13) Exercise 3 and presentation

Code sample:

```
hours = input('Enter Hours: ')  
rate = input('Enter Rate: ')  
pay = float(hours) * float(rate)  
print (pay)
```

Summary / Next Steps / Exit Slip:

(#14) Challenge Question

Write a program which prompts the user for a Celsius temperature, convert the temperature to Fahrenheit, and print out the converted temperature.

Code sample:

```
cel = input('Enter celsius temperature: ')  
fah = float(cel)*9.0/5.0 + 32
```

```
print('Fahrenheit temperature: ' + str(fah))
```

Focus Questions:

What error(s) did you run into? How did you solve the issue(s)?