**Outline**

Access the Python Development environment and follow the tutorial to gain an initial exposure to a programming language. Begin to develop an familiarity with basic programming concepts.

**Objectives**

* Use correct terminology to describe programming concepts;
* Describe the types of data that computers can process and store (e.g., numbers, text);
* Explain the difference between constants and variables used in programming;
* Use variables, expressions, and assignment statements to store and manipulate numbers and text in a program

**Materials**

* Python3 Development Environment at: //repl.it/
* Python Tutorial at: <http://www.letslearnpython.com/learn/>

**Accessing the Python3 Web IDE Environment**

Accessing the IDE

* Go to: <https://repl.it/>
* Select Python3
* Sign-up / Create an account
* Make sure you can remember your account information for the rest of the course.

Using the IDE

* Use the black area like a calculator to try simple statements or commands
* Use the white area to create programs with multiple statements

**Accessing the Tutorial**

Accessing the Tutorial

* Go to: <http://www.letslearnpython.com/learn/>
* Read up to “Lesson 3: Math”

**Level 1: Basic Math & Strings**

Access the Tutorial and start at “Lesson 3: Math”.

Questions

1. Complete “Lesson 3: Math – Math Basics” by typing the sample commands in the black area of the IDE.
   1. Create your own expression using 5 “+” and “-“ operators.
   2. List your expression and the result below.

5+6=11

1. Complete “Lesson 3: Math – More Operators” by typing the sample commands in the black area of the IDE.
   1. Create your own expression using 5 “\*” and “/” operators.
   2. List your expression and the result below.

66\*4=264

1. Complete “Lesson 3: Math – More Division” by typing the sample commands in the black area of the IDE.
   1. Create one division expression that gives a whole number answer.

6/3=2.0

* 1. And one division expression that gives a decimal number answer.

7/3=2.33

* 1. List your expressions and the results below.

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1. Complete “Lesson 3: Math – Floats” by typing the sample commands in the black area of the IDE.
   1. Use the “round()” function for the expressions you created in question #3 above.
   2. List your “round()” expressions and the results they return below.

Round(2.33)=2

1. Read through “Lesson 3: Math – Comparison Operators”.
   1. Why do you think Equals is “==” instead of “=”?

== is a checker to see if they are equal and = is an assignment checker

* 1. What does “=” mean?

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1. Complete “Lesson 3: Math – Practice” and “Lesson 3: Math – Practice Answers” by typing the sample commands in the black area of the IDE.
   1. Create an expression using 5 different operators that returns a “True” result

5==5

6==6

7==7

8==8

9==9

* 1. And an expression using 5 different operators that returns a “False” result.

9==3

9==5

9==6

9==8

8==9

* 1. List your expressions and the results returned below.

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1. Complete “Lesson 4: Strings – Strings” and “Lesson 4: Strings – Examples” by typing the sample commands in the black area of the IDE.
   1. Explain why typing “apple” works and why typing apple without quotes gives an error.

Python believes an apple is not a variable that’s why without the quotation marks it did not work

* 1. Also explain why “2 + 5” does not equal 7.

You are saying it is not a variable

1. Complete “Lesson 4: Strings – Operators” by typing the sample commands in the black area of the IDE.
   1. Explain why typing “appl” + “e” works and why typing “apple” - “e” gives an error.
   2. Also explain why “Hello” \* 10 works but why “Hello” / 10 does work.

Not sure and not working

1. Complete “Lesson 4: Strings – Indexes” by typing the sample commands in the black area of the IDE.
   1. List the letters in your first name and the index for each letter in your first name.

“N”+“A”+“V”+“D”+“E”+“E”+“P”= ‘NAVDEEP’

1. Complete “Lesson 4: Strings – Indexes Examples” by typing the sample commands in the black area of the IDE.
   1. Explain why print(“Hello!”[4]) does not print “l”.

I believe that it does not because the letter has already been printed once.

* 1. What does print(“Hay, Bob!”[4]) print? For a hint try print(“Hay, Bob!”[3]) and print(“Hay, Bob!”[5])

Not Working

1. Complete “Lesson 4: Strings – Rules” by typing the sample commands in the black area of the IDE.
   1. Explain why print(“Hello!”[7]) gives an error.

There is no 7th letter

