Web IDE – Python3 Environment

Accessing the IDE

1. Go to: <https://repl.it/>
2. Select Python3
3. Sign-up / Create an account
4. 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

Level 0: Basic Math & Strings

Accessing the Tutorial

* Go to: <http://www.letslearnpython.com/learn/>
* Skip directly to “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+7-6**

=> 6

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.

**5\*4/10**

=> 2.0

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
   2. And one division expression that gives a decimal number answer.
   3. List your expressions and the results below.

**20/4**

=> 5.0

**20/3**

=> 6.666666666666667

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(10/13)**

=> 1

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

== means “equal to”

= means “sum of an equation”

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
   2. And an expression using 5 different operators that returns a “False” result.
   3. List your expressions and the results returned below.

**12 + 1 > 5 \* 4 / 2**

=> True

**12 + 5 < 1 \* 2 / 2**

=> False

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.

* Typing apple in quotes works because Python is able to read the string.
* Typing apple without quotes does not work because Python is unable to read the string.
  1. Also explain why “2 + 5” does not equal 7.
* The reason is because it’s in quotes and it’s referred as a string(it is not referred as an expression).

1. Complete “Lesson 4: Strings – Operators” by typing the sample commands in the black area of the IDE.
   1. Explain why typing “apple” + “e” works and why typing “apple” - “e” gives an error.

* The reason is because “-“ is an unsupported operator.
  1. Also explain why “Hello” \* 10 works but why “Hello” / 10 does work.
* The reason is because “/“ is an unsupported operator.

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.

* U D I S T A N

0 1 2 3 4 5 6

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 “!”.

* The reason is because 4 is the index of “o”.
  1. What does print(“Hay, Bob!”[4]) print? For a hint try print(“Hay, Bob!”[3]) and print(“Hay, Bob!”[5])
* Prints “ “.

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.

* The reason is because there are only 6 digits and the maximum digit is 6.

Level 1: Basic Math & Strings

Accessing the Tutorial

* Go to: <http://www.letslearnpython.com/learn/>
* Skip directly to “Lesson 5: Variables”

Questions

1. Complete “Lesson 5: Variables – Save a Value” by typing the sample commands in the black area of the IDE.
   1. What do you get if you type puppies / 3?

**puppies = 6 \* 6**

**puppies**

=> 36

**puppies/3**

=> 12.0

* 1. Why doesn’t typing kittens / 3 work?
* Kittens don’t have a particular value.

1. Complete “Lesson 5: Variables – Assign a New Value” by typing the sample commands in the black area of the IDE.
   1. Explain how the following sequence of commands works:
      * puppies = 36
      * puppies = puppies / 6
      * puppies

Answer : “puppies” is equal to 36 – “puppies” is assigned a value(36).

“puppies” is divided by 6” – 36 is divided by 6.

“puppies” means 36.

1. Read through “Lesson 5: Variables – Rules”.
2. Complete “Lesson 5: Variables – Math Operators” by typing the sample commands in the black area of the IDE.
   1. Explain what happens for following sequence of commands:
      * colour = “red”
      * puppies = 36
      * colour + puppies

Answer : “colour” is equal to “red” – “colour” is assigned a value(red).

“puppies” is equal to 36 – “puppies” is assigned a value(36).

“colour + puppies” means “red + 36”.

1. Complete “Lesson 5: Variables – String Operators” by typing the sample commands in the black area of the IDE.
   1. Explain why the following commands give different results:
      * Color + day \* fishes
      * ( Color + day ) \* fishes
2. Complete “Lesson 5: Variables – Indexes” by typing the sample commands in the black area of the IDE.
   1. What is the index of ‘r’ in “watermelon”?
   2. Write an expression using mynumber to return ‘r’