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.

1+2

=> 3

12-3

=> 9

9+5-15

=> -1

2+5

=> 7

5+6

=> 11

5-1

=> 4

5-9

=> -4

5-8

=> -3

5-11

=> -6

5-7

=> -2

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.
   3. 5\*3
   4. => 15
   5. 5\*7
   6. => 35
   7. 5\*6
   8. => 30
   9. 5\*8
   10. => 40
   11. 5\*4
   12. => 20
   13. 5/8
   14. => 0.625
   15. 5/2
   16. => 2.5
   17. 5/3
   18. => 1.6666666666666667
   19. 5/1
   20. => 5.0
   21. 5/3
   22. => 1.6666666666666667

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.

5/1

=> 5.0

5/3

=> 1.6666666666666667

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(10/3)

=> 3

round(10/2)

=> 5

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

I think “==) means to equal too & “=” means to less than or equal too.

* 1. What does “=” mean?

“=” means to less than or equal too

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.

5>2+2

=> True

7>3+2

=> True

100>50+30

=> True

45>11+11

=> True

88>40+20

=> True

5<1+1

=> False

6<2+2

=> False

70<60+2

=> False

80<50+3

=> False

72<5+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.
2. **"apple"**
3. => 'apple'

apple

Traceback (most recent call last):

File "python", line 1, in <module>

NameError: name 'apple' is not defined

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

“2+5"

=> '2+5'

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.

Because, **"appl"+"e"**

=> 'apple'

Appl + e works because, you are adding an “e” appl – e doesn’t work because you don’t have an e to subtract.

* 1. Also explain why “Hello” \* 10 works but why “Hello” / 10 does work. Hello multiplied by 10 is saying hello 10 times but, hello /10 doesn’t work because you can’t not say hello 10 times

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.

‘H’+‘E’+‘L’+’A’+‘L’

0+1+2+3+4+5

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”.

Because the h started with 1 not 0

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

It prints out b

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.

Because there isn’t a total of 7 letter

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/3

=> 12.0

Why doesn’t typing kittens / 3 work?  
**kittens/3**

Traceback (most recent call last):

File "python", line 1, in <module>

NameError: name 'kittens' is not defined

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
2. Read through “Lesson 5: Variables – Rules”.
3. 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
4. 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
5. 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’
6. Complete “Lesson 5: Variables – Assignments or Comparisons” by typing the sample commands in the black area of the IDE.
   1. What is the difference between “=” and “==”?
   2. Create your own mnemonic to remember this difference.
7. Complete “Lesson 6: Errors – Examples” by typing the sample commands in the black area of the IDE.
   1. What doesn’t “friend” + 5 work?
   2. Wht is the difference between int and str?
8. Read through “Lesson 6: Errors – Parts of an Error Message”.
   1. Is “friend” + 5 an example of:
      1. A Syntax Error?
      2. A Runtime Error?
      3. A Logic Error?
9. Read through “Lesson 6: Errors – Fixing Errors”.
   1. Use the ‘print’ command to print your first name and last name.
10. Complete “Lesson 7: Booleans – Types of Data” by typing the sample commands in the black area of the IDE.
    1. What is the value of: type(“True”)
    2. What is the value of: type( True )
    3. Why is the result different?

1. Complete “Lesson 7: Booleans – What Is A Boolean” by typing the sample commands in the black area of the IDE.
   1. Why do you think that having a Boolean data type is important in computer programming?
2. Complete “Lesson 7: Booleans – Trying Out Booleans” by typing the sample commands in the black area of the IDE.
   1. Why do you think that there is no Maybe” Boolean data value in computer programming?