Level 3: Lists & Logic

Access the Tutorial and start at “Lesson 7: Booleans”

Questions

1. Complete “Lesson 7: Booleans – AND Comparisons” by typing the sample commands in the black area of the IDE.

a. Try the following Python statements and record the results.

i. True and True= True

ii. True and False= False

iii. False and True= False

iv. False and False= False

b. Explain if there are any other combinations of True / False.

No there isn’t because those are the only possible outcomes.

c. Explain how the AND operator is similar to a math operator and how it is different.

It is similar to see if the equations equal each other and is different because it is a string.

2. Complete “Lesson 7: Booleans – OR Comparisons” by typing the sample commands in the black area of the IDE.

a. Try the following Python statements and record the results.

i. True or True= True

ii. True or False=True

iii. False or True=True

iv. False or False=False

b. Explain how the OR operator is similar to the AND operator and how it is different.

Or has more chance for the equation to be true and has less chance of it being False.

3. Complete “Lesson 7: Booleans – NOT Comparisons” by typing the sample commands in the black area of the IDE.

a. Try the following Python statements and record the results.

i. not (True or True)=False

ii. not (True or False)=False

iii. not (False or True)=False

iv. not (False or False)=True

b. Explain how the combination of the NOT & OR operators is similar to the AND operator by itself and how it is different.

Not is the opposite answer to what would be given if and was there. Not and or give the opposite answer of AND and not.

4. Complete “Lesson 7: Booleans – Expressions” by typing the sample commands in the black area of the IDE.

a. Explain why the following two Python statements give different results.

i. not (True or True)

ii. not True or True

The brackets make it so the computer uses order of expressions first and then uses the not for the second one the computer uses the not first and gives you the answer true while the first one gives you false. Using the or makes it different.

b. Explain why the following two Python statements give the same results.

i. not (True and True)

ii. not True and True

Since it is using AND it makes it so the answers will be the same whether there is or isn’t brackets.

5. Complete “Lesson 7: Booleans – Practice” by typing the sample commands in the black area of the IDE.

a. Create three more practice expressions similar to those in the tutorial.

“dog”==”dog” “cat”==”dog” True = 2=2

b. Provide the results for your practice expressions

True, False and True

6. Complete “Lesson 8: Lists – A Collection of Objects” by typing the sample commands in the black area of the IDE.

a. Create a list of your favorite sports teams.

b. Assign your list to a variable.

c. Confirm that your variable and your list are the same.

7. Complete “Lesson 8: Lists – List Indexes” by typing the sample commands in the black area of the IDE.

a. What is the list index of the last team in your list of favorite sports teams.

Sportsteams = [“mapleleafs”, “raptors”,]

1 and it is the raptors.

b. In the tutorial, the error produced by typing “fruit[3]” is an example of:

i. A Syntax Error?

ii. A Runtime Error?

iii. A Logic Error?

It was an index error because the index didn’t have four things in the list.

8. Complete “Lesson 8: Lists – Practice” and “Lesson 8: Lists – Practice Answers” by typing the sample commands in the black area of the IDE.

mycolor= ["orange", "blue", "red"] mycolor[0] = orange

NOTE: Starting with Lesson 9 you should use the WHITE area of the IDE for entering example code with multiple statements.

9. Complete “Lesson 9: Logic – Making Decisions” by typing the sample commands in the white area of the IDE.

a. Modify the tutorial code to print “Hi Alfred!” based on a decision using numbers

myname = "6"

if myname == "6":

print("Hi Alfred!")

10. Complete “Lesson 9: Logic – Adding A Choice” by typing the sample commands in the white area of the IDE.

a. Modify the tutorial code to print your first name or your last name based on a choice (using “else”).

myname= 6

if myname == "Alfred":

print("Hi Alfred!")

else:

print ("Hi Thanujan Nandakumar")

11. Complete “Lesson 9: Logic – Adding Many Choices” and “Lesson 9: Logic – Practice” by typing the sample commands in the white area of the IDE.

a. Modify the tutorial code and “elif” statements to make a choice using at least 4 of your friends names.

myname= 6

if myname == "Alfred":

print("Hi Alfred!")

elif myname== 2:

print ("Hi Thanujan")

else:

print ("Hi Bob, Jeff, Dave, Jhon")