Level 1: Basic Math & Strings (Answers)

Question 1

List your expression and the result below.

5+1

=6

5-1

=4

Question 2

List your expression and the result below.

5\*6

=30

50/5

=10.0

Question 3

List your expressions and the results below.

100/5

=20.0

4/5

=1.25

Question 4

List your “round()” expressions and the results they return below.

Round(5/4)

=1

Question 5

1. Why do you think Equals is “==” instead of “=”?

== means equal to and just = is not equal to

1. What does “=” mean?

Just = means not equal to.

Question 6

List your expressions and the results returned below.

True Results

5<4+3

True

12+1>=12

True

16\*2==32

True

16==16

True

5<10

True

False Results

16!=16

False

10<5

False

5>=20

False

100!=1000

False

100<==9

False

Question 7

1. Explain why typing “apple” works and why typing apple without quotes gives an error.

The “” tells us that the start of the word or equation and the ending of the word or equation. This tells the computer that the expression is complete.,

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

Because when you add the “”, it is an expression. If you don’t add that, then it is a math problem. That is how computer interacts

Question 8

1. Explain why typing “appl” + “e” works and why typing “apple” - “e” gives an error.

You can add the letter e too appl but not take away the e from appl.

1. Also explain why “Hello” \* 10 works but why “Hello” / 10 does work.

You cannot divided Hello but you could multiply the word by 10

Question 9

List the letters in your first name and the index for each letter in your first name.

1. **D"+"a"+"m"+"a"+"n"**
2. => 'Daman'

Question 10

Explain why print(“Hello!”[4]) does not print “l”.

If we start at the beginning of the string, the letter 'H' is at index, or position, zero. Then index 1 is the letter 'e', indexes 2 and 3 are 'l'. And index 4 is the letter 'o'.

Question 11

Explain why print(“Hello!”[7]) gives an error.

There is no 7 in hello because it goes past the word Hello.

Level 2: Booleans & Variables

**1)**

1. you get 12 when you type puppies / 3
2. get an error when you type kittens / 3 b because it’s not defined in the program yet

2)

1. when you type puppies=36 it says that there is an error , because puppies = 36 and when you type it , it just trace backs the last time you typed it.
2. When you type puppies / 6 you get 6.0 because puppies is equal to 36 and 36 divided by 6 is 6.0
3. When you type puppies it shows 36

4)

1. It shows an error when you type colour+puppies on the black screen because the color isn’t a number

5)

1. it shows error for Color + day \* fishes because you can’t multiply numbers of fishes with the color of the day
2. it shows an error for ( Color + day ) \* fishes because you still can’t multiply numbers of fishes with the color of the day

6)

1. the index of ‘r’ in watermelon is 4
2. fruit= “watermelon”

fruit[4]

7)

1. “=” is used to tell something for example “cats”= 4 “==” is to tell if something is true or false
2. Cats=5

Cats==6

false

8)

1. “friend” + 5 doesn’t work because you cannot convert ‘int’ object to str implicitly.
2. int is an integer , str is a string

9)

1. it’s a syntax error

10)

1. print(“Ramin Ramin”)

11)

a)the value for (“true”) is ‘true’

b)the value for (true) is an error

12)

a)it is important to have Boolean because you can get math equations with decimals

13)

Booleans are valuable because to check some of the data that you missed and you want to check something if its true or false you use Booleans .

Level 3: Lists & Logic

Question 1

Try the following Python statements and record the results.

**True and True**

=> True

**True and False**

=> False

**False and True**

=> False

**False and False**

=> False

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

No there are no other combinations of True/False.

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

Uses same concept as a math operator and the difference of it is that it uses different wording to get the same answer.

Question 2

Try the following Python statements and record the results.

**True or True**

=> True

**True or False**

=> True

**False or True**

=> True

**False or False**

=> False

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

It’s the same concept but, if you use “AND” with the combinations of True and False, you get 3 false answers and 1 true, but if you use “OR” with the combinations of True and False, you get 3 true answers and 1 False answer.

Question 3

Try the following Python statements and record the results.

**not (True or True)**

=> False

**not (True or False)**

=> False

**not(False or True)**

=> False

**not(False or False)**

=> True

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

It becomes the complete opposite with using “not”, because it tells tell the computer that it isn’t true so it becomes false.

Question 4

Explain why the following two Python statements give different results.

When you use not (true or true), it tells the computer that the real answer isn’t “not” true so it becomes false and same goes with false or false.

Question 5

**True and False**

=> False

**False and False**

=> False

**True or True**

=> True

**False or True**

=> True

**False or False**

=> False

**not True and False**

=> False

Question 6 – Done on Black Screen

Question 7

['Cavs', 'Raptors', 'Orlando']

0 1 2

Typing “fruit[3]” means it is a SyntaxError: invalid charcter in identifier

Question 8 – Done on Black Screen

Question 9 – Done On the White Screen

Question 10 – Done on the White Screen

Question 11 – Done on the White Screen