

Questions

Basics

1. What is an expression?
2. What is a syntax error?
3. What is PEP8?
4. What does a linter do?
5. What is the result of this expression: `"*" * 10`
6. What is CPython?
7. How is CPython different from Jython?
8. How is CPython different from IronPython?

Primitive Types

1. What is a variable?
2. What are the primitive built-in types in Python?
3. When should we use `"""` (triple quotes) to define strings?
4. Assuming `(name = "John Smith")`, what does `name[1]` return?
5. What about `name[-2]`?
6. What about `name[1:-1]`?
7. How to get the length of `name`?
8. What are the escape sequences in Python?
9. What is the result of `f"{2+2}+{10%3}"`?

10. Given (name = "johnsmith"), what will **name.title()** return?
11. What does name.**strip()** do?
12. What will **name.find("Smith")** return?
13. What will be the value of **name** after we call name.**replace("j", "k")**?
14. How can we check to see if **name** contains **"John"**?
15. What are the 3 types of numbers in Python?

Control Flow

1. What is the difference between **10 / 3** and **10 // 3**?
2. What is the result of **10 ** 3**?
3. Given (**x = 1**), what will be the value of **x** after we run (**x += 2**)?
4. How can we round a number?
5. What is the result of **float(1)**?
6. What is the result of **bool("False")**?
7. What are the falsy values in Python?
8. What is the result of **10 == "10"**?
9. What is the result of **"bag" > "apple"**?
10. What is the result of **not(True or False)**?

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11. Under what circumstances does the expression **18 <= age < 65** evaluate to True?
12. What does **range(1, 10, 2)** return?
13. Name 3 iterable objects in Python.

Functions

1. What is the difference between a parameter and an argument?
2. All functions in Python by default return ...?
3. What are keyword arguments and when should we use them?
4. How can we make a parameter of a function optional?
5. What happens when we prefix a parameter with an asterisk (*)?
6. What about two asterisks (**)?
7. What is scope?
8. What is the difference between local and global variables?
9. Why is using the **global** statement a bad practice?

Coding Exercises

1. Write a function that returns the maximum of two numbers.
2. Write a function called **fizz_buzz** that takes a number.
 1. If the number is divisible by 3, it should return "Fizz".
 2. If it is divisible by 5, it should return "Buzz".
 3. If it is divisible by both 3 and 5, it should return "FizzBuzz".
 4. Otherwise, it should return the same number.
3. Write a function for checking the speed of drivers. This function should have one parameter: speed.
 1. If speed is less than 70, it should print "Ok".
 2. Otherwise, for every 5km above the speed limit (70), it should give the driver one demerit point and print the total number of demerit points. For example, if the speed is 80, it should print: "Points: 2".
 3. If the driver gets more than 12 points, the function should print: "License suspended"

4. Write a function called **showNumbers** that takes a parameter called **limit**. It should print all the numbers between 0 and limit with a label to identify the even and odd numbers. For example, if the limit is 3, it should print:

- 0 EVEN
- 1 ODD
- 2 EVEN
- 3 ODD

5. Write a function that returns the sum of multiples of 3 and 5 between 0 and **limit** (parameter). For example, if limit is 20, it should return the sum of 3, 5, 6, 9, 10, 12, 15, 18, 20.

6. Write a function called **show_stars(rows)**. If **rows** is 5, it should print the following:

- *
- **
- ***
- ****
- *****

7. Write a function that prints all the prime numbers between 0 and **limit** where limit is a parameter.