**Python interview question**

**Junior and middle questions.**

1.  What is the lambda function in Python? Why does it exist in Python?

Lambda function is the function had no name. It means this function is not defined as usual. It is anoymous, so the reason why it exists in Python is to complicate the code. In some case, these coders do not want anyone modify their codes.

2. What is pass in Python?

Pass is an empty statement in Python. It is very helpful when you build the structure for your project. When you want to pre-write all of functions, but some functions will be finshed in the future. So, when you run your project, the compiler will skip thesse functions.

3. What is \*args, \*\*kwargs in function definition?

\*args means non keyword arguments. When you define a function but not sure that how many arguments will be used. So, it allows to pass the as many as arguments as you want when the function is called

\*\* kwwargs means keyword arguments. It similar as \*args, but must follow the keyword

4. What is docstring in Python? How to write them? Are they required?

Docstring in python is the string that help to provied more information of a funciton, method or class … for the other reader. The information may include: the operation, the input or output of function, …

They are created after definition by triple quote “““. And witer information as a comment.

They are not required but are recommended, even are required in big companies for the big projects. Because they help the group work easier, other colleagues can understand what you are coding quickly

5. What are the built-in data types that Python provides? Which of them are mutable, which are immutable?

They are str, int, float, bool, dict, list, set, tuple

Mutable: list, dict, set

Immutable: tuple, bool, int, float, str

6. What is the difference between list and tuple types in Python?

List is mutable and tuple is immutable

7, What keywords can be used in conjunction with the for keyword?

In, else

8, What's the difference between globals(), locals(), and vars()?

9, Is it possible to have a negative index in iterative in Python?

Yes, when we use negetive index, that means the loops will be started from back of them

10. What is the \_\_init\_\_.py module? What it's for?

It is a python module used to created a package. It will be called when a package is imported

11. How can I swap values of variables in Python? Please give an example

You can use a tempoary variable. For example, swap values of a and b , you create a temporary variable named temp and swap them like this:

temp = a

a = b

b = temp

12. How do I view object methods? Please give an example

13. What is a module in python? What is a package? What is the difference between packages and modules in Python? Please give an example module and package

A module is the file contain python code, name of the module has form: file name + .py extenison.

A package is thing as a floder that contain modules related to each other. A package also contains subpackages. It must hold the file \_\_init\_\_.py

Example: We can consider a “File Arranger” project as a package. This package include moudles have different function, such as sort\_to\_date.py module to sort the file by modified date; sort\_to\_extension.py module to sort the file by file extension, menu.py module to view the list of the function of programe for the end user.

14. What is the \_\_init\_\_ function used for?

This is constructor of a class. When a instance of a class is defined, the \_\_init\_\_ function will be auto called first

15.  Explain how to make a Python script executable on Unix?

16. What is the output of -12 % 10 and -12 // 10.

% returns the remainder when first operand is divided by the second

// division but rounds the result down to the nearest whole number

-12 % 10 = 8

-12 // 10 = -2 ( -1.2 round down -2)

17. Why shouldn't you make the default arguments an empty list?

18. What is the yield keyword used for in Python?

19. What is an iterator in Python? Can you write an example?

An object contains a countable number of elements

Example: list is an iterator. lstFruist = [“apple”, 1, 20]

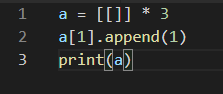
20. What is the difference between \_\_iter\_\_ and \_\_next\_\_?

21. What is unittest module in Python? How to write tests in Python?

22. What are metaclasses in Python?

**Junior and middle code involving**

1. Write a function that produces the Fibonacci sequence.
2. How to translate a string containing a binary code (1 and 0) into a number (integer)? Write a function to do this.
3. How to check that tuple A contains all elements of tuple B. Do both tuples contain unique values? Write a function to do this.
4. How to convert a string to a number that consists of letters ASCII code. Example: 'abcd' -> 979899100. Write a function to do this.
5. How to remove empty lines from a list of lines (with a length of 0). Write a function to do this.
6. Write a function that returns a string of numbers from 0 to 100, "0123456789101112...".
7. Write a function that makes a list with unique items from a list with duplicate items. Example: [1, 1, 2, 3, 3] -> [1, 2, 3]
8. Write a program that prints the numbers from 1 to 20. But for multiples of three print “Fizz” instead of the number and for the multiples of five print “Buzz”. For numbers that are multiples of both three and five print “FizzBuzz”.
9. What will be the output of the following code? Please explain why?



1. We have the following code with the unknown function f(). In f(), we do not want to use a return, instead, we may want to use a generator.



The output looks like this:



Write a function f() so that we can have the output above.