

- **Interview questions for Data Types, Operators, Conditional Statements, Looping Statements, Functions.**

1. What is Python?

Answer:

- Python is a **high-level, interpreted**, interactive, and **object-oriented** scripting language. It uses English keywords frequently. Whereas, other languages use punctuation, Python has fewer syntactic constructions.
- Python is designed to be highly **readable** and **compatible** with different platforms such as Mac, Windows, Linux, Raspberry Pi, etc.

2. What are the common built-in data types in Python? / What data types does Python support?

Answer:

Python supports the below-mentioned built-in data types:

Immutable data types:

- Number
- String
- Tuple

Mutable data types:

- List
- Dictionary
- Set

3. Do we need to declare variables with data types in Python?

Answer:

No. Python is a dynamically typed language, I.E., Python Interpreter automatically identifies the data type of a variable based on the type of value assigned to the variable.

4. What is a function?

Answer:

When we want to execute a sequence of statements, we can give it a name. Let's define a function to take two numbers and return the greater number.

```
>>> def greater(a,b):  
    return a if a>b else b  
  
>>> greater(3,3.5)
```

5. Explain Python List Comprehension.

Answer:

The [list comprehension in python](#) is a way to declare a list in one line of code. Let's take a look at one such example.

```
>>> [i for i in range(1,11,2)]  
[1, 3, 5, 7, 9]  
  
>>> [i*2 for i in range(1,11,2)]  
[2, 6, 10, 14, 18]
```

6. Given the first and last names of all employees in your firm, what data type will you use to store it?

Answer:

I can use a dictionary to store that. It would be something like this-

```
{'first_name':'Ayushi','second_name':'Sharma'}
```

7. Explain the ternary operator in Python.

Answer:

[on true] **if** [expression] **else** [on false]

8. Explain the //, %, and ** operators in Python.

Answer:

The // operator performs floor division

** performs exponentiation. a**b returns the value of a raised to the power b.

% is for modulus.

9. What are membership operators?

Answer:

With the operators 'in' and 'not in', we can confirm if a value is a member in another.

10. Explain identity operators in Python.

Answer:

The operators 'is' and 'is not' tell us if two values have the same identity.

11. Explain logical operators in Python.

Answer:

We have three logical operators- and, or, not.

12. What are the three main conditional statements in Python?

Answer:

if, elif, and else

13. What does elif mean?

Answer:

It means else if. It is used after an if statement, to do another comparison.

14. In comparing dates and DateTime objects, what happens when one comparand is naive and the other aware?

Answer:

A TypeError is raised.

15. When are dictionaries considered equal?

Answer:

If and only if their sorted lists compare equally.

16. What is lambda in Python?

Answer

anonymous function means that a function is without a name. As we already know that def keyword is used to define the normal functions and the lambda keyword is used to create anonymous functions.

17. What Is A Function In Python Programming?

Answer

A function is an object which represents a block of code and is a reusable entity. It brings modularity to a program and a higher degree of code reusability.

Python has given us many built-in functions such as print() and provides the ability to create user-defined functions.

18. What is *args and **kwargs?

Answer

*args is used when the programmer is not sure about how many arguments are going to be passed to a function, or if the programmer is expecting a list or a tuple as argument to the function.

**kwargs is used when a dictionary (keyword arguments) is expected as an argument to the function.

19. What Is The Return Keyword Used For In Python?

Answer

The purpose of a function is to receive the inputs and return some output.

The return is a Python statement which we can use in a function for sending a value back to its caller.

19.

How does For loop and While loop differ in Python and when do you choose to use them?

Answer

For loop is generally used to iterate through the elements of various collection types such as List, Tuple, Set, and Dictionary.

While loop is the actual looping feature that is used in any other programming language. This is how Python differs in handling loops from the other programming languages.

20. What are the advantages & disadvantages of using a for loop in Python?

Answer

- For loops are good because they can make your code more readable and easier to follow.
- They also make sure that certain instructions are executed at least one time.
- If you don't know the upper-bound of your loop, you have to keep track of it by hand or break out of your loop early.
- You can't use a break statement to escape from a nested loop

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