Introduction to Python - Questions and Answers

1. What is the purpose of Python in AI?

Answer – Python is at the heart of every modern artificial intelligence system. It's the programming language of choice for data scientists and engineers creating the key infrastructure that drives today's most sophisticated AI systems. As a result, many companies are using Python to develop their next generation of AI systems.

2. What are the benefits of Python Language? Answer – The benefits of Python Language are 1. Simple to understand, read, and maintain

2. Clear syntax and a simple keyword structure

3. Python includes a large library of built-in functions that can be used to tackle a wide range of problems.

4. Python features an interactive mode that enables interactive testing and debugging of code snippets.

5. Python runs on a wide range of operating systems and hardware platforms, with the same user interface across all of them.

6. We can use the Python interpreter to add low-level models. These models allow programmers to make their tools more efficient by customizing them.

7. Python includes interfaces to all major open source and commercial databases, as well as a more structured and robust framework and support for big systems than shell scripting.

3. What are the different applications of Python?

Answer – The different application of Python are – Web and Internet Development

2. Desktop GUI Application
3. Software Development
4. Database Access
5. Business Application
6. Games and 3D Graphics

4. What do you mean by Interactive Mode in Python shell?

Answer – Python IDLE Shell has a Python prompt where you can type single-line Python commands and have them executed quickly.

5. What do you mean by Script Mode in Python Shell?

Answer – The Script Mode in Python allows you to add many lines of code. In script mode, we write a Python programme to a file and then run it using the interpreter. Working in interactive mode is advantageous for beginners and for testing small sections of code because it allows us to test them immediately. When developing code with more than a few lines, however, we should always save it so that we can change and reuse it later.

6. What is a python Statement?

Answer – A statement is a piece of code that a Python interpreter can execute. In other terms, a statement is anything typed in Python. There are many different types of statements in the Python programming language, including assignment statements, conditional statements, looping statements, and so on.

7. What are Keywords?

Answer – In Python, keywords are reserved words that help the interpreter recognise the program's structure. Keywords are predefined terms in Python that have special meanings. The keyword isn't allowed to be used as a variable, function, or identifier. With the exception of True and False, all Python keywords are written in lower case.

8. What are Identifiers?

Answer – A variable, function, class, module, or other object is given a name called an identifier. A string of numerals and underscores make up the identifier. The identifier should start with a letter or an Underscore and end with a numeric. The characters are A-Z or a-z, an UnderScore (_), and a numeric (0-9). In identifiers, special characters (#, @, $, %,!) should be avoided.

9. What is Variable?

Answer – In a computer language, a variable is a memory area where a value is stored. A variable in Python is created when a value is assigned to it. In Python, declaring a variable does not necessitate any additional commands.

10. What are the different rules for declaring the Variable?

Answer – The rules for declaring variable are –

1. A number cannot be used as the first character in the variable name. Only a character or an underscore can be used as the first character.
2. Python variables are case sensitive.
3. Only alpha-numeric characters and underscores are allowed.
4. There are no special characters permitted.

11. What do you mean by Constant?

Answer – A fixed-value variable is referred to as a constant. Constants are similar to containers that hold data that cannot be changed afterwards.

12. What is Data Type in Python?

Answer – Each value in Python has a datatype. Because everything in Python programming is an object, data types are essentially classes, and variables are instances (objects) of these classes.

Python supports a variety of data types. Some of the most common data types are listed here.

1. Numbers
2. Sequences
3. Sets
4. Maps

13. What is the purpose of Dictionaries in Python?

Answer – Dictionaries are commonly employed in Python when dealing with large amounts of data. A dictionary is a collection array, exactly like any other. A dictionary is a collection of strings or numbers that can be altered and are not in any specific order. The keys are used to access dictionary items. A dictionary is declared using curly brackets.

14. What is Implicit Type Conversion?

Answer – Python automatically changes one data type to another via implicit type conversion. There is no need for users to participate in this process. Example :

```
x = 5
y=2.5
z = x / z
```

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15. What is Explicit Type Conversion?

Answer – Users transform the data type of an object to the required data type using Explicit Type Conversion.
To do explicit type conversion, we employ predefined functions such as int(), float(), str(), and so on.
Because the user casts (changes) the data type of the objects, this form of conversion is also known as typecasting.