

VIVA VOCE

1. What is Python?

Ans. Python is an easy-to-learn, general-purpose, dynamic, interpreted, high-level, multiplatform, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming.

2. How can you start Python through windows command prompt?

Ans. If you set the Python path for windows, then you can start Python with the following:

C :> python

3. What is IDLE?

Ans. IDLE (Interactive Development and Learning Environment) is an environment for developing Python programs ("scripts") under windows and other operating systems.

4. What are the two modes of working in Python?

Ans. Python provides two modes of working:

- (a) Interactive mode
- (b) Script mode

5. What is a variable?

Ans. A variable is an identifier/placeholder that holds a value. In other words, a variable is a reference to a computer memory location where the value is stored.

6. What can a variable hold in Python?

Ans. In Python language, a variable can hold a string, a number or several other objects such as a function or a class. Variables can be assigned different values during execution.

7. Name the three key attributes of an object in Python.

Ans. Each object in Python has three key attributes: a type, a value, and an id.

8. Define a keyword.

Ans. A keyword is a reserved word in the Python programming language. Keywords are used to perform a specific task in a computer program.

9. Why is the given statement invalid in Python?

$x + 1 = x$

Ans. The statement is invalid because an expression cannot be placed on the left of the equal '=' sign. Therefore, the correct statement should be:

$x = x + 1$

10. What is the following statement termed as?

$a, b, c, d = 1, 2, 3, 4$

Ans. Multiple Assignment Statement.

11. Name five primitive data types in Python.

Ans. Five primitive data types in Python are: Numbers, String, List, Tuple, and Dictionary.

12. Differentiate between single quotes, double quotes and triple quotes.

Ans. The differences are:

- If you use single quotes, you do not have to escape double quotes and vice versa.
- If you use triple quotes, your string can span multiple lines.

13. Is string a sequence data type?

Ans. Yes.

14. Define input() method.

Ans. The purpose of an input() method is to fetch some information from the user of a program and store it into a variable.

15. What is the role of a print() function?
Ans. A print() method prints an expression which may be a variable's value or string or a blank line.
16. What does a print statement add to the end of the string?
Ans. By default, the print() function adds a new line to the end of the string being printed.
17. If you don't use the sep option with print() function, what will it print?
Ans. If sep is not defined, a space is printed between the values received by the print statement.
18. What is the default value printed by giving end argument to print() method?
Ans. A new line ('\n').
19. What is an operator in Python?
Ans. An operator works on data items and performs some mathematical operations or changes the data. For example, +, -, *, /, %, >, <, >=, <=, <<, >>, &, |, ^, ==, etc.
20. When does a logical and operator produce true result?
Ans. The logical and operator evaluates to True only if both conditions/operands are true.
21. What is an expression? What does it constitute?
Ans. An operand or a combination of operands and operators, when evaluated, yields a single value called an expression. The expression consists of variables, constants, and functions.
22. What is modulo operator? Give an example.
Ans. The % operator is termed as modulo operator. It calculates the remainder of division of one number by another. For example, 5%2 shall return the result as 1, remainder obtained when we are dividing 5 by 2.
23. Which operator is used to compare the values of operands?
Ans. Relational operator.
24. How can we change the order of evaluation of operator?
Ans. We can use parentheses to alter the order of evaluation of an equation.
25. What is a unary operator? Give examples.
Ans. The operator which requires only one operand to operate upon is called unary operator. The + and - operators in Python can be used in both binary and unary forms.
26. Differentiate between binary and ternary operator.
Ans. The operators which require only two operands to work upon are binary operators and those which require three operands are ternary operators.
27. Differentiate between division operator (/) and floor division operator (//).
Ans. In Python, the division operator (/) performs integer division on two operands. We get exact division output. For example,

```
>>> 5/2  
2.5
```


The floor division (//) performs an integer division and, as a result, an integer is obtained.
For example,

```
>>> 8//3  
2  
>>>
```


the fraction part gets truncated.
28. Which function can be used to know the data type of a variable?
Ans. type() method in Python allows you to know the data type of a variable.
29. Name the sequence surrounded by either single quotes or double quotes.
Ans. String
30. How can we convert a string to a number in Python?
Ans. A string which contains number will be converted to numeric type using int() function.

- 31.** Define a sequence construct.
- Ans.** A sequence construct constitutes all the statements which are executed sequentially.
- 32.** What is selection construct?
- Ans.** A selection construct involves execution on the basis of certain test conditions.
- 33.** What is a flow chart?
- Ans.** A flow chart is a pictorial/graphical representation of a task. Flow charts are drawn using certain special-purpose symbols such as rectangles, diamonds, ovals, and circles. These symbols are connected using arrows termed as flow lines.
- 34.** Give an advantage of using a flow chart.
- Ans.** Flow chart provides a unique feature of breaking down of a complex problem into parts in order to obtain the solution to a given problem.
- 35.** Define an infinite loop.
- Ans.** An infinite loop is a loop where a condition never becomes false and keeps on executing. It is a never-ending loop, such as a while loop in case the situation never resolves to a false value.
- 36.** What is iteration construct?
- Ans.** Iteration means repetition of a set of statements until the test condition remains true depending upon the loop.
- 37.** Define the body of the loop.
- Ans.** The sets of statements which get executed on the test condition becoming true is defined as the body of the loop.
- 38.** What is an exit control loop? Give an example.
- Ans.** An exit control loop is a loop which checks for condition to be true or false at the time of exit from the loop. *For example, do...while.*
- 39.** What is the purpose of using a for loop?
- Ans.** The for loop is used for definite/fixed number of iterations.
- 40.** What are the supported data types in Python?
- Ans.** Python has five standard data types—
- (i) Numbers
 - (ii) String
 - (iii) List
 - (iv) Tuple
 - (v) Dictionary
- 41.** Is Python object-oriented?
- Ans.** Yes, Python is an Object-oriented Programming language.
- 42.** What is the purpose of break statement?
- Ans.** The break statement is used to forcefully terminate the loop execution where it has been given.
- 43.** What is an exception in Python?
- Ans.** An error that happens during the execution of the code/program is termed as an exception. *For example, Syntax errors, runtime errors, like division by zero, are examples of exceptions in Python.*
- 44.** Which statement/construct is used to handle an exception in Python?
- Ans.** try...except statement is used in Python to handle exceptions.
- 45.** How many else clauses can be added in a try...except block?
- Ans.** Only one.
- 46.** How many except clauses can be included in a try block?
- Ans.** Any number of except clauses can be included.
- 47.** What is an empty string?
- Ans.** An empty string contains no characters and has length as 0.

48. Name the method that works reverse of split() method in strings.

Ans. join() method

49. Define a string.

Ans. A string is a sequence of characters. Strings are immutable in Python, *i.e.*, they cannot be modified once created.

50. Define a list in Python. Why is it mutable and dynamic in nature?

Ans. A list in Python is an ordered collection of items which may belong to any data type. A list is dynamic, mutable type as you can add or delete elements from the list any time.

51. What happens when an element gets deleted from a list?

Ans. When we remove an element from a list, the size or length of the list decreases by 1 position.

52. What does append() function do?

Ans. It simply adds/appends an element to the end of the list.

53. What is a dictionary?

Ans. A Python dictionary is a collection of key-value pairs. The elements in a dictionary are indexed by keys which must be unique.

54. What does the item() method of dictionary return?

Ans. The item() method returns a list of dictionaries (key:value) pairs as tuples.

55. Why are Python dictionaries also termed as mappings?

Ans. Python dictionaries are called mappings because these are like a collection that allows us to look up for information associated with arbitrary keys.

56. Define a tuple.

Ans. A tuple is an immutable list which cannot be changed. Tuples are represented by elements enclosed with parentheses instead of square brackets.

57. Define MongoDB.

Ans. MongoDB is an object-oriented, simple, dynamic, and scalable, open source document database, document-oriented, NoSQL database.

58. What is NoSQL?

Ans. The database which supports document-based structure is called NoSQL database. In other words, NoSQL = Non SQL or Not only SQL.

59. Does MongoDB support SQL?

Ans. No.

60. Differentiate between list and tuples.

Ans. The differences between the two are:

- (i) Lists are mutable while tuples are not.
- (ii) Tuples can be used as keys for dictionaries while list can't be used.
- (iii) Tuples are used when the order of the elements in the sequence matters while the elements in list can be arranged in any order.