

## Questions

- 1) What is a program?
- 2) What is programming?
- 3) What is translators in programming language?
- 4) How many translators are there? What are they?
- 5) What is the difference between interpreter and compiler?
- 6) What are the Python Language features?
- 7) What is the difference between Java and Python?
- 8) What is Python Indentation?
- 9) What are the Python comments?
- 10) What is Python variables?
- 11) What are the rules for writing a variable?
- 12) How many types of variables and what are they?
- 13) What is interpreter?
- 14) What is compiler?
- 15) What is Assembler?
- 16) What is Global variable?
- 17) What is Local variable?
- 18) What is Python keywords?
- 19) What are Data types?
- 20) What is Python casting?
- 21) Explain Numeric type?
- 22) Explain Sequence type?
- 23) What are the basic uses of Python?
- 24) What is string?
- 25) What is integer?
- 26) What is float?
- 27) What is complex?
- 28) What is boolean?
- 29) What is list?

- 30) what is tuple?
- 31) what is dictionary?
- 32) what is set?
- 33) What is the difference between list, tuple and dictionary?
- 34) What how many types of operators are there? And what are they?
- 35) Explain Arithmetic operator?
- 36) What is Assignment operator?
- 37) Explain comparison operator?
- 38) What is logical operator?
- 39) What is Identity operator?
- 40) Explain Membership operator?
- 41) Explain Bitwise operator?
- 42) What is shift operators?
- 43) What is bitwise right shift?
- 44) what is bitwise left shift?
- 45) What are python conditions and if statements?
- 46) What is else?
- 47) what is elif?
- 48) What is programming language?
- 49) Does a list need to be homogeneous?  
Ans: NO, There is no need to be homogeneous because List is used to store the collection of values.
- 50) What is the difference between append and extend?  
Ans: append() adds a single element to the end of the list while, extend() can add multiple individual elements to the end of the list.
- 51) what is the difference between remove and pop?  
Ans: The remove() function removes the first matching value from the list. The pop() function is used to return the removed element from the list.

52) How to concatenate two lists ?

Ans: This operation is useful when we have number of lists of elements which needs to be processed in a similar manner.

→ Ways to concatenate two lists .

- 1) using Naive Method , 2) using + operator , 3) using list comprehension , 4) using extend() , 5) using \* operator ,  
6) using itertools.chain()

53) How to check if an element is not in a list ?

Ans: "not in" operator - This operator is used to check whether an element is not present in the passed list or not. Returns true if the element is not present in the list otherwise returns false .

54) How to remove duplicates from a list ?

Ans: Remove duplicates from list operation has a large number of applications and hence, its knowledge is good to have .

- 1) using set() , 2) using list comprehension , 3) using set()  
4) using list comprehension + enumerate()

55) What is while loop ?

56) what is for loop ?

57) What is a function ?

58) what are the types of function ?

59) What is inbuilt function ?

60) what is user-defined function ?

61) What is lambda function ?

62) what is oops concept in python ?

63) what are the main concepts of oops ?

64) what is class ?

65) what is object ?

66) what is polymorphism ?

67) what is Encapsulation ?

68) what is Inheritance and types of inheritance ?

69) what is Data Abstraction ?

## Interview Questions

- 1) What are local variables and global variables in python.
- 2) When to use a tuple vs list vs dictionary in python.
- 3) Explain some benefits of python.
- 4) What is Lambda functions in python.
- 5) How to modify a string in python.
- 6) What is docstring in python.
- 7) What are descriptors.
- 8) How can I create a copy of an object in python.
- 9) What is python? What are the benefits of using python.
- 10) What is a dynamically typed language.
- 11) What is an interpreted language.
- 12) What is scope in python.
- 13) What are lists and tuples? What is the key difference between the two.
- 14) What are the common built-in data types in python.
- 15) What are modules and packages in python?
- 16) What are global, protected and private attributes in Python.
- 17) What is break, continue and pass in python?
- 18) What is slicing in python.
- 19) What is the difference between Python Arrays and lists.
- 20) How is memory managed in python.
- 21) What are Python namespaces? Why are they used.
- 22) What is Scope Resolution in python.
- 23) What are Dict and List Comprehensions.

- 24) How do you copy an object in python .
- 25) what is the difference between xrange and range in python .
- 26) what is pickling and unpickling .
- 27) what are generators in python .
- 28) how does inheritance work in python ? Explain it with an example .
- 29) How is an empty class created in python .
- 30) Differentiate between new and override modifiers .
- 31) How will you check if a class is a child of another class .
- 32) what do you know about pandas .
- 33) How will you combine different pandas dataframes .
- 34) what do you understand by numpy ?
- 35) How are numpy arrays advantageous over python list .
- 36) Define PYTHON PATH .
- 37) what is main function in python ? How do you invoke it ?
- 38) How is python different from SQL ?
- 39) Could you tell me about what are the main features of python .
- 40) Could you explain what keywords are in python .
- 41) why is python considered a complex programming language .
- 42) what are some of python's drawbacks .
- 43) Are you aware of some python-supported modes for processing files .

- 44) what are python's dictionaries, and how to access the value of the dictionary .
- 45) what is type conversion in python .
- 46) how does break , continue and pass work .
- 47) what is a shallow copy and deep copy in python .
- 48) how to reverse a list in python .
- 49) what is the difference between append and extend .
- 50) what is the difference between instance, static, and class methods in python .
- 51) what are the types of inheritance in python .
- 52) Does python support multiple inheritance .
- 53) how does a class inherit from another class in python .
- 54) Explain about oops concept .
- 55) How do you uppercase and lowercase a string in python .

## Questions

- 1) Write a program to check whether a person is eligible for voting or not?
- 2) Write a program to check whether the number is even (or) odd?
- 3) Write a program to check whether a number is divisible by 7 (or) not?
- 4) Write a program to display Hello. If a number is entered by user is multiple of 5. Otherwise print bye?
- 5) Write a program to calculate electricity bill except the number of unit from the user according to following criteria.

unit	charge
first 100 units	no charge
Next 100 units	Rs 5 per unit
After 200 units	Rs 10 per unit

For example  $350 = 2000$ .

- 6) Write a program to check whether a number is positive or negative?
- 7) Write a program to display large digit of a number?
- 8) Write a program to check the large digit of a number entered by user is divisible by 3 or not?
- 9) Write a program to accept percentage from the user and display the grade according to the following criteria?

Marks in %

Grade

$> 90$

A

$> 80 \text{ and } <= 90$

B

$>= 60 \text{ and } <= 80$

C

below 60

D

10) Write a program to accept the cost price of a bike and display the road tax to be paid according to the following criteria.

Cost price

Tax

$> 100000$

15%

$> 50000 \text{ and } <= 100000$

10%

$<= 50000$

5%

11) write a program to check Leap year or not?

12) write a program to accept the number 1-7 and display the name for 1 to monday, 2-tuesday

13) write a program to accept the number from 1 to 12 and display the month and days.

1- January to December.

14) Accept any city from user and display monument of the city.

Delhi

Redfort

Agra

Taj Mahal

Jaipur

Taj mahal

15) write a program to find the lowest number out of two numbers accepted from the user.

16) write a program to check whether a number accepted from the user is divisible by 2 and 3 both.

17) write a program to find larger number out of three numbers ?

18) Accept tem in degree celsius of water and check whether it is boiling or not ?

19) Accept the age of 4 people and check who is the younger one ?

20) write a program to check whether a number is prime or not ?

21) write a program to check whether it is vowel or not .

22) Accept the percentage from the user and display the grade according to the following criteria .

Below 25 - D (fail)

25 to 45 - C

45 to 50 - B

50 to 60 - B+

60 to 80 - A

above 80 to 100 - A +

23) A company decided to give bonus to employees according to following criteria .

Time period of Service	Bonus
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More than 10 years	10 %
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$>= 6$ and $<= 10$	8 %
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less than 6 years	5 %
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- 24) write a program to find those numbers which are divisible by 7 and multiple of 5 between range 1500 to 2700 ?
- 25) write a program to construct a specified pattern using a nested loop ?
- 26) write a python program that accepts a word from the user and reverse it ?
- 27) write a python program to count the number of even and odd numbers from a series of numbers
- 28) write a program to find the factorial .
- 29) write a program to palindrome .
- 30) program to iterate through a list using indexing
- 31) program to display students marks from record .
- 32) program to add natural numbers up to  
$$\text{sum} = 1+2+3+\dots+n$$
- 33) write a print program to print the following using while loop -  
a) First 10 Even numbers .  
b) First 10 odd numbers .  
c) First 10 natural numbers .  
d) First 10 whole numbers .
- 34) write a program to print first 10 integers and their squares using while loop .
- 35) write a program to sum of numbers in the given list using function .
- 36) write a program to reverse a string using a function .
- 37) program to swap first and last element of a list .

38) program to swap first and last element of a list [12, 35, 9, 36, 24] -

39) Find the length of the list and simply swap the first element with  $(n-1)$ th element.

40) A company decided to give bonus to employee according to following criteria .

Time

41) Accept the marked price from the user and calculate the net amount as (marked price - Discount) to pay according to following criteria

Marked price	Discount
$> 10000$	20 %
$> 7000 \text{ and } < 10000$	15 %
$< 7000$	10 %

42) Accept the age, Sex ('M', 'F'), number of days and display the wages accordingly -

Age	sex	wage / day
$>= 18 \text{ and } < 30$	M	700
	F	750
$>= 30 \text{ and } < 40$	M	800
	F	850

43) Accept the kilometers covered and calculate the bill according to the following criteria :

first 10 KM	Rs 11 / KM
Next 90 KM	Rs 10 / KM
After that	Rs 9 / KM.

44) Accept the number of days from the user and calculate the charge for library according to following :

Till five days : RS . 2 / day

six to ten days : RS . 3 / day

11 to 15 days : RS . 4 / day

After 15 days : RS . 5 / day

45) check whether a number is armstrong number or not .

46) write a program to print fibonacci sequence

47) write a program to calculate number of vowels and consonants in a string .

48) write a program to check whether given two strings are anagrams .

49) Find the missing numbers in an array that contains integer from (1 to 10) .

50) Delete the repeated elements in an integer array .

51) Write a python function to find the max of the three numbers .

52) write a python function to sum all the numbers in a list .

53) write a python function to reverse a string .

54) write a python function to multiply all the numbers in a list .

55) write a python function to calculate the factorial of a number. The function accepts the number as an argument.

56) Python program to check whether a number falls in a given range.

57) Python function that accepts a string and calculate the number of upper case letters and lower case letters.

58) Python function to print the even numbers from a given list.

59) Python function that checks whether a passed string is palindrome or not.

60) Python program to access a function inside a function.

61) Create a class with instance attributes .

62) Create a child class Bus that will inherit all the variables and methods of a vehicle class.

63) Create a class and objects with methods .

64) write a program for inheritance in python .

65) write a program for polymorphism in Python .

66) Write a program for Encapsulation in python .