

1. Why do we call Python as a general purpose and high-level programming language?

Ans. Python is a popular general-purpose programming language that. designed to be used for building software in a wide variety of application domains, across a Multitude of Hardware Configurations and Operating Systems.

Python is an object-oriented, high-level programming language. Object-oriented programming language is basing objects. and high-level means it's easy for human to understand.

2. Why is Python called a dynamically typed language?

Ans. yes, Python a dynamically type programming language.

Dynamic typing language means that the type checking of the variable is determined only during runtime. This means that variables are checked when the program is executing.

when we assign or initialize it with value, that values will get stored at that memory location. At complier time initial value or assigned value will be checked. so, we cannot mix types.

3. List some pros and cons of Python programming language?

The pros of Python

1. python simple and easy to learn
2. Free ware and Open Source
3. High Level Programming language
4. Platform Independent
5. Python is an interpreted language
6. Dynamically Typed
7. Oriented and object Oriented
8. Extensible

The cons of python

1. Python has speed limitations
2. Python consumes a lot of memory space
3. Weak in Mobile computing
4. Runtime Errors
5. Complex Multithreading

4. In what all domains can we use Python?

Yes,

1. Most popular domains
2. Artificial intelligence
3. Machine learning
4. Deep Learning
5. Data Science
6. Application Development
7. Web Development
8. Gaming

5.What are variable and how can we declare them?

- Variable is basically used to stored value of variable. Variable is a name that is used to refer to memory location.
- we do not need to declare variables before using them or declare their type.
- A variable name must start with an Alpha letter or the underscore character
- A variable name cannot start with a number.
- A variables names are case-sensitive
- The Reserved words cannot be used naming the variable.

How can we declare

- ❖ age = 50 # An Integer Type
- ❖ salary = 34000.54 # A Floating point
- ❖ name = "Amit" #A str (String) type

6.How can we take an input from the user in Python?

Ans .

```
username = input ("Enter your Name:")
username = input ("Enter your Age:")
print ("Username is:"+username)
print ("userage is:"+userage)
```

7.What is the default datatype of the value that has been taken as an input using input () function?

Ans. By Default, input type return as String.

So, the student's name and student marks will be stored as stored as string.

Example: -

```
student_name = input ("Please Enter Your Student Name: ")
student_marks = input ("Please Enter Your Student Marks: ")
print ("Data Type of checking", type(student_name))
print ("Data Type of checking ", type(student_marks))
```

8. The conversion of one data type into the other data type is known as type casting in python.

There are two varieties of typecasting in python

- ❖ Explicit Conversion
- ❖ Implicit Conversion

1. Explicit Conversion: - Python needs user involvement to convert the variable data type into a certain data type for the operation required

int (): int () function takes float or string as an argument and returns int type object.

float (): float () function takes int or string as an argument and returns float type object.

str (): str () function takes float or int as an argument and returns string type object.

Implicit Type Casting: - Python converts data type into another data type automatically.

Example: -

#Explicit Conversion

```
num = 50
```

```
print(num)
```

```
print("Before Type casting Data type:-",type(num))
```

```
result =float(num)
```

```
print(result)
```

```
print("After Type casting Data type:-",type(result))
```

#Implicit Conversion

```
int_num = 10
```

```
float_num = 100.23
```

```
string_name ="Amit"
```

```
print("type casting of int_num ",type(int_num));
```

```
print("type casting of float_num",type(float_num));
```

```
print("type casting of string_name",type(string_name));
```

9.Can we take more than one input from the user using single input () function? If yes, how? If no, why?

Ans. User can take multiple inputs in one line in python programming language by two methods.

split() method :-

Split() Method :-This function is getting multiple inputs from users. the given input by the specified separator and white space is a separator.

```
Example :- first_name,last_name = input("Enter two Values :").split(',')
print("Enter your First Name :- ",first_name)
print("Enter your Last Name :- ", last_name)
```

10. What are keywords?

Ans . Python has a set of keywords that are reserved words that cannot be used as variable names, function names, or any other identifiers:

There are 33 keywords in Python. That have special meanings. Keywords are used to define the syntax of the coding.

Python keywords are different from Python's built-in functions and types.

11. Can we use keywords as a variable? Support your answer with reason.

You cannot use keywords as variable names. It's because keywords have predefined meanings.

It's because float is a keyword and cannot be used as a variable name.

Identifiers cannot be a keyword.

Identifiers are case-sensitive.

Example:-

```
True = True1
```

```
False = False1
```

```
print(True and True)
```

```
print(True or False)
```

12.What is indentation? What's the use of indentaion in Python?

Ans. Indentation is a very important concept of Python because without properly indenting the Python code, you will end up seeing IndentationError and the code will not get compiled.

Python indentation refers to adding white space before a statement to a particular block of code. In another word, all the statements with the same space to the right, belong to the same code

Example

```
age = 12
```

```
if age == 12:
```

```
    print("Your Age :", age)
```

```
else:
```

```
print("Not your Age :",age)
```

13.How can we throw some output in Python?

Python print() function prints the message to the screen or any other standard output device.

Example :- name = input("Enter your Name")

14.What are operators in Python?

Ans. In Python, operators are special symbols that designate that.Operators are used to perform operations on variables and values.

Arithmetic operators

Assignment operators

Comparison operators

Logical operators

1. Arithmetic operators :- Arithmetic operators are used to perform mathematical operations.

Addition = a+b

Substraction = a-b

Multiplication = a*b

Division = a/b

Modulo = a%b

Power = a**b

2.Assignment operator :- Assignment operators are used to assign values to variables.

Assignment Operator = x=7

Addition Assignment = x+=7

Substraction Assignment = x-=7

Multiplication Assignment = x*=7

Division Assignment = x/=7

Remainder Assignment = x%=7

Exponent Assignment = x**=9

3.Comparison Operators :- Comparison operators compare two values/variables and return a boolean result: True or False.

Is Equal To = `a==b`

Not Equal To = `a!=b`

Greater Than = `a>b`

Less Than = `a<b`

Greater Than or EqualTo = `a>=b`

Less Than or Equal To = `a<=b`

4.Logical Operators : -Logical operators are used to check whether an expression is True or False. They are used in decision-making.

and = a and b

or = a or b

not = not a

15. What is difference between / and // operators?

Ans . / Operators

The first one is Float Division("/").

// Operators

the second is Integer Division("//") or Floor Division.

16.Write a code that gives following as an output.

iNeuroniNeuroniNeuroniNeuron

Ans.

```
multiply_str = "iNeuron"*4
```

```
print("Multiply str = ", multiply_str)
```

17. Write a code to take a number as an input from the user and check if the number is odd or even.

Ans.

```
num = int (input("Enter any number to test whether it is odd or even: "))
```

```

if (num % 2) == 0:
    print ("The number is even",num)
else:
    print ("The provided number is odd",num)

```

18. What are Boolean operator?

Ans. The logical operators and, or and not are also referred to as Boolean operators. While and as well as or operator needs two operands, which may evaluate to true or false, not operator needs one operand evaluating to true or false. Boolean and operator returns true if both operands return true.

19. What will the output of the following?

1 or 0

0 and 0

True and False and True

1 or 0 or 0

Ans.

```

num = 10
num1 = 8
print("num>20 or num1<10 Result",num>20 or num1<10)
print("num>10 and num1<10 Result",num>10 and num1<10)
print("not(num>20 and n<10) Result " , not(num>10 and num1<10))

```

20. What are conditional statements in Python?

conditional statements is used for decision-making operations.It contains a body of code which runs only when the condition given in the if statement is true. If the condition is false,

if condition statement

if else condition statement

Nested if-else condition statement

1. if condition statement:- simple code of block is to be performed if the condition holds true then if statement is used.

Example :-

```

if 20>5:

```

```
print("20 Greater than 5")  
print("if condition statement ended")
```

2. if else condition statement :- It contains a body of code which runs only when the condition given in the if statement is true. If the condition is false, else block code execute condition statement

Example :-

```
if 10>2:  
    print("10 Greater than 2")  
else:  
    print("10 Less than 2")
```

3. Nested if-else condition statement :- if statement can also be checked inside other if statement. This conditional statement is called a nested if statement.

Example:-

```
num1 = 10  
if num1 == 20:  
    print("This Number is Equal to ",num1)  
elif num1 == 10:  
    print("This Number is Equal to ",num1)  
else:  
    print("Not Valid Number")
```

21. What is use of 'if', 'elif' and 'else' keywords?

if...elif...else are conditional statements that provide you with the decision making that is required when you want to execute code based on a particular condition.

The if...elif...else statement used in Python helps that decision making process.

22. Write a code to take the age of person as an input and if age ≥ 18 display "I can vote". If age is < 18 display "I can't vote".

Example :-

```
num = int(input("Enter value and check person age for vote"))  
if num<=18:  
    print("I can Vote ",num)  
else:
```



```
print("I can't vote",num)
```

23. Write a code that displays the sum of all the even numbers from the given list.

Ans . numbers = [12, 75, 150, 180, 145, 525, 50]

```
for ele in numbers:
```

```
    if ele%5==0:
```

```
        if ele>150:
```

```
            continue
```

```
        if ele>500:
```

```
            break
```

```
        print(ele)
```

24. Write a code to take 3 numbers as an input from the user and display the greatest no as output.

Ans.

```
a = int(input('Enter first number : '))
```

```
b = int(input('Enter second number : '))
```

```
c = int(input('Enter third number : '))
```

```
largest_number = 0
```

```
if a > b and a > c :
```

```
    largest_number = a
```

```
elif b > c :
```

```
    largest_number = b
```

```
else :
```

```
    largest_number = c
```

```
print(largest_number, "is the largest of three numbers.")
```

25. Write a program to display only those numbers from a list that satisfy the following conditions

Ans. numbers = [12, 75, 150, 180, 145, 525, 50]

```
for item in numbers:
```

```
    if item > 500:
```

```
        break
```

```
    elif item > 150:
```

```
        continue
    elif item % 5==0:
        print(item)
```