

Python Assignment - I

Q1. Why do we call Python as a general purpose and high-level programming language?

Ans : Python is called a high-level programming language because it's very easy for a human to understand.

Python is also called as general purpose language because it is used to solve wide range of different kinds of problems.

Python is not specific to a domain. It is used in many fields like machine learning, AI etc.,

Q2. Why is Python called a dynamically typed language?

Ans : In c, java while writing the code we used to declare the type of the variable.

Whereas in python it is determined during runtime. There is no problem even if we don't declare the type. So python is called a dynamically typed language.

Q3. List some pros and cons of Python programming language?

Ans:

Pros :

1. Easy to learn and code - anyone can learn and understand python easily
2. Portable - run the code in different platforms
3. Extensive libraries - lot of things got simplified with the inbuilt standard library
4. Automatic memory management - memory will be released and cleared automatically.
5. Interpreted -like c/c++ it doesn't require any compilation to binary.

Cons:

1. Larger memory consumption - it requires more memory space .
2. Speed limitation - python executes the code line by line. So, the results are bit slow.
3. Run time errors- it's is because of dynamic typed feature.

Q4. In what all domains can we use Python?

Ans : Automation, data science, application development, machine learning, AI,GUI, gaming, web development , web scraping applications, embedded applications.

Q5. What are variable and how can we declare them?

Ans : Variables are like containers where you can store a value in it. There is no specific command for declaring a variable in python. It is created when we assign a value to it.

Q6. How can we take an input from the user in Python?

Ans : with input() function we can take the input from the user in python.

Q7. What is the default datatype of the value that has been taken as an input using input() function?

Ans : string

Q8. What is type casting?

Ans : it is a method of converting one datatype to another datatype is called type casting.

Q9. Can we take more than one input from the user using single input() function? If yes, how? If no, why?

Ans : Yes we can take more than one input from the user using single input() function.

Example : `x,y=input().split()`

Q10. What are keywords?

Ans : Basically keywords are the reserved words in python. They cannot be used as a function names or variable names.

Example : `break, elif, in` etc.,

Q11. Can we use keywords as a variable? Support your answer with reason.

Ans : Keywords cannot be used as a variable because keywords have predefined meanings.

ex : `class='A'` (`class` is defined as variable and `'A'` is a value a which is assigned to it)

Above code leads to an error. Here `class` is a keyword it cannot be used as variable name.

Q12. What is indentation? What's the use of indentation in Python?

Ans : indentation helps us to write a code in a proper structure. Use of indentation in python is to indicate it is a block of code.

Q13. How can we throw some output in Python?

Ans : using `print()` function.

Q14. What are operators in Python?

Ans : Operators are the special symbols in python which perform arithmetic or logical operations.

Ex : `+, -, *, /, //` etc..

Q15. What is difference between `/` and `//` operators?

Ans : `" / "` indicates as Normal division which has floating values.

Ex : `5/2=2.5`

`" // "` indicates as floor division. It returns and integer part and ignore floating values.

Ex: `5//2=2`

Q16. Write a code that gives following as an output.

...

iNeuroniNeuroniNeuroniNeuron

...

Ans :

```
x="iNeuron" * 4
```

```
print(x)
```

Q17. Write a code to take a number as an input from the user and check if the number is odd or even.

Ans:

```
n=int(input("Enter any number : "))
if (n%2==0):
    print(n,"is an even number")
else:
    print(n,"is an odd number")
```

Q18. What are boolean operator?

Ans : boolean operator is used to make a logical decision in a programming language. Commonly used boolean operator's are AND,OR & NOT

Q19. What will the output of the following?

...

1 or 0 - **o/p is 1**

0 and 0 - **o/p is 0**

True and False and True - **o/p is False**

1 or 0 or 0 - **o/p is 1**

...

Q20. What are conditional statements in Python?

Ans : Conditional statements are the one's which performs certain actions based on the condition.

Examples for the conditional statements in python are :

1. If
2. If - else
3. If - elif
4. Nested if

Q21. What is use of 'if', 'elif' and 'else' keywords?

Ans : if - if the condition is true then statements that are present inside it are executed

Else - anything thing that are not caught in the previous/any of the conditions.. will fall under else part

Elif - it is a short form of else if. It is used to check multiple expressions. If the previous condition is false then elif is executed

Q22. 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".

Ans:

```
age=int(input("enter your age to check vote eligibility:"))
if (age>=18):
```

```

    print("I can vote")
else:
    print("I can't vote")

```

Q23. Write a code that displays the sum of all the even numbers from the given list.

```

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

```

Ans:

```

numbers = [12, 75, 150, 180, 145, 525, 50]
sum=0
for i in numbers:
    if(i%2==0):
        sum=sum+i

print("sum of all the even numbers is :", sum)

```

Q24. Write a code to take 3 numbers as an input from the user and display the greatest no as output.

Ans:

```

x=int(input("Enter num1:"))
y=int(input("Enter num2:"))
z=int(input("Enter num3:"))
if ( x >= y) and (x >= z):
    max_num = x
elif (y >= x) and (y >= z):
    max_num = y
else:
    max_num = z
print(max_num, "is the greatest")

```

Q25. Write a program to display only those numbers from a list that satisfy the following conditions

- The number must be divisible by five
- If the number is greater than 150, then skip it and move to the next number
- If the number is greater than 500, then stop the loop

```

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

```

Ans:

```

x=[12, 75, 150, 180, 145, 525, 50]
for i in x:

```

```
if(i>500):  
    break  
if(i%5==0):  
    if(i>150):  
        continue  
    print(i)
```

O/p : 75,150,145