ASSIGNMENT PART -1

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

Ans. Python known as a general-purpose programming language since it's designed to address wide range of problems. It is often used to create a website, to conduct data analysis, software development, automation, data science projects and so on.

Python is closer to English language and is quite away from machine code. Hence this language is popular for its readability. It is quite easy for the humans to understand, that's why Python is known as high-level programming language.

Q2. Why is Python called a dynamically typed language?

Ans. In Python there is no need to declare the type of every variable while compiling. Python don't have any problem even if we don't declare the type of variable. Python decides the type of the variable during runtime and do it for you automatically. This makes Python a dynamically typed language.

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

Ans.

PROS	CONS
a) Python is easy to learn, read and write, hence it's beginner friendly. b) It is free, open-source, and has a vibrant community. c) Python has a vast collection of libraries. d) Python is a portable programming language. e) It is Object-Oriented. f) It has extensive Libraries. g) Dynamically typed language.	a) Python consumes a lot of memory space. b) Slower than compiled languages. c) Weak in mobile computing. d) Runtime errors. e) Testing is a bit difficult in python.

Q4. In what all domains can we use Python?

Ans. Python can be used in

1. Web development
2. Artificial intelligence
3. Data science
4. Deep learning
5. Software development
6. Machine learning

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

Ans. In Python, variable is a reserved memory location to store values. To declare a variable, you just assign it a value and then start using it. Variable assignments are done with a single equals sign (=).

eg. name = 'John'

age = 22

a = 5

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

Ans. input () function is used to take the input from the user and converts it into a string.

eg. name = input ("Enter your name: ")

print("My name is:" name)

output

Enter your name: Manu

My name is: Manu

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

Ans. The type of the returned object always will be **<type 'str'>.**

Q8. What is type casting?

Ans. The input function converts, whatever you entered as input into a string. i.e. if you enters an integer or float value, the input function converts it in to a string. Hence you need to explicitly

convert it in to an integer. **Type Casting** is the method of converting the variable data type into a certain data type.

eg. age = int(input("Enter your age: "))

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

Ans. Yes. Split() function can be used to get multiple inputs from user.

eg. a, b = input ("Enter two values: ").split()

print ("Manu's age is:" , a)

print ("Tanu's age is:" , b)

Q10. What are keywords?

Ans. Keywords are predefined or reserved words in python that have some specific meanings. It is used to define the syntax of coding.

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

Ans. Keywords cannot be used as variable names, functions, and as identifiers. Because keywords are building blocks of python programming language and it defines the structure of code.

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

Ans. Indentation refers to adding of white spaces before the beginning of a block of code. This tells python interpreter that set of statements belong to a particular code.

Q13. How can we throw some output in Python?

Ans. print() function can be used to display output to a screen.

eg. print("ineuron")

Output

Ineuron

Q14. What are operators in Python?

Ans. Operators are used to perform operations on variables and values.

- Arithmetic operators: Used to perform mathematical operations like addition, subtraction, multiplication, and division.
- Assignment operators: Used to assign values to the variables.
- Comparison operators: Compares the values. It either returns True or False according to the condition.
- Logical operators: Perform Logical AND, Logical OR, and Logical NOT operations. It is used to combine conditional statements.

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

Ans. In Python programming, division can be performed in two ways.

a) Float Division ("/"): Used for the normal division of two numbers.
b) Integer Division or Floor Division ("//"): The digits after the decimal point are removed from the results. It returns the integer value.

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

```
iNeuroniNeuroniNeuroniNeuron
```

Ans.

```
print("\'"*3)        # Print 3 times '
print("iNeuron"*4)   # Print 4 times iNeuron
print("\'"*3)
```

Q17. 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: "))    # Input any number
if num %2 == 0:                           # Check the modulus of number with 2
    print(num, "is even number.")
else:
    print(num, "is odd number.")
```

Q18. What are boolean operator?

Ans. The logical operators are also referred to as boolean operators.

a) and: returns true if both operands return true.
b) or: returns true if any one operand is true.
c) not: operator returns true if its operand is a false expression and returns false if it is true.

Q19. What will the output of the following?

```
1 or 0


0 and 0


True and False and True


1 or 0 or 0
```

Ans. True

True

False

True

Q20. What are conditional statements in Python?

Ans. They are also called as decision-making statements. Those statements are used to execute a block of code when the given condition is true or false.

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

Ans. if: When the program finds the condition defined in the if statement to be true, it will go ahead and execute the code block inside the if statement.

eg. if condition:

    statements..

else: The “else” block will execute only when the defined if condition becomes false.

eg. if condition:

    statements..

  else:

    statements..

elif: This statement is used to check multiple conditions only if the given condition is false. It’s similar to an “if-else” statement. The only difference is that in “else” we will not check the condition, but in “elif” we will check the condition.

eg. if condition:

    statements..

  elif condition:

    statements..

  else:

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: "))    # Input your age
if age >= 18:                           # Check whether your age is greater than or
equal to 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]    # list of numbers
x = 0                                         # initialise x as 0
for i in numbers:                             # select each number from the array
    if i % 2 == 0:                            # check number is odd or even
        x = x+i                               # sum of even numbers
print("Sum of even numbers is: ", x)          # display the output
```

Q24. 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: "))        # Enter first number
b = int(input("Enter second number: "))       # Enter second number
c = int(input("Enter third number: "))        # Enter third number
if a > b and a > c:                           # Check whether first number is
greater
    greatest = a
elif b > a and b > c:                         # Check whether second number is
greater
    greatest = b
else:
    greatest = c


print( "The greatest number is ", 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.

```
numbers = [12, 75, 150, 180, 145, 525, 50]
num=[]
for i in numbers:
    if i > 150:
        if i > 500:
            break
        continue
    if i <= 150:
        if i % 5 ==0:
            num.append(i)


print(num)
```