**Assaignment 1**

#intro

print("Hello Future Data Engineer");

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

Ans 1.

Any programming language that permits the creation of a programme in a considerably more user-friendly programming environment and is typically independent of the hardware architecture of the computer is referred to as a high-level language.

General purpose programming languages are those that are capable of addressing the demands of a wide range of fields.

Thus, we call Python as a general purpose and high-level programming language because it is highly user-friendly and can used in various domains.

Q2. Why is Python called a dynamically typed language?

Ans2.

Dynamic typing means that the type of the variable is determined only during runtime and not before hand. If we don't declare the variable's type, Python won't have any issues. It specifies the kind of variable used during programme execution. Additionally, Python handles memory management, which is important in programming. That’s why we call Python a dynamically typed language

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

Ans3.

Pros-

1. Python is easy to learn and read.
2. Python increases productivity.
3. Python has very big collection of libraries.
4. Python is free, open-source, and has a vibrant community.

Cons-

1. Slower than compiled languages.
2. Python can have runtime errors.
3. It consumes a lot of memory space.

Q4. In what all domains can we use Python?

Ans4.

As we discussed before we call Python as a general purpose and high-level programming language because it is highly user-friendly and can used in various domains. For eg-

1. Data Science

2. Automation

3. App Development

4. AI & Machine Learning

5. Audio/Video Applications

6. Web Scrapping

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

Ans5.

Variables are containers for storing data values. It is a reserved memory location for storing values.

Variables are declare or assigned by the assignment operator i.e ‘=’ .

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

Ans6.

In python input can be taken from the user by using the input() function.

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

Ans7.

The default datatype of the value that has been taken as an input using input() function is string type. It need to be type casted to other data types.

Q8. What is type casting?

Ans8.

Type Casting is the method to convert the variable data type into another data type in order to the operation required to be performed by users.

Eg-

n= int(input("Enter a Number= "))

converting string data type into integer type to perform calculations.

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

Ans9.

Yes we can by writing-

x,y,z=input("Enter x y z= ").split()

print(x,y,z)

Q10. What are keywords?

Ans10.

Keywords are used to specify the Python language's syntax and structure.

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

Ans 11.

No, A keyword cannot be used as a name for a variable, function, or any other type of identifier. They are used to specify the Python language's syntax and structure.

Rules for Python variables declaration suggest that

1. A variable name must start with a letter or the underscore character
2. A variable name cannot start with a number
3. A variable name can only contain alpha-numeric characters and underscores
4. A variable name cant be a keyword

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

Ans12.

Indentation refers to the spaces at the beginning of a code line or some sentence written to make others understand what the code is about.

Python uses indentation to indicate a block of code and what it is about so that other programmers can understand its functionality.

Q13. How can we throw some output in Python?

Ans13.

We can throw some output in Python by using the print function

print("Hello Future Data Engineer");

Q14. What are operators in Python?

Ans14.

Operators are special symbols that performs a particular action or computation.

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

Ans15.

/ operator performs division and gives result in float whereas // operator performs division and gives only quotient as result.

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

iNeuroniNeuroniNeuroniNeuron

Ans 16.

**n = "iNeuron"**

**print(n\*4);**

Output=

iNeuroniNeuroniNeuroniNeuron

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

Ans 17.

n= int(input("Enter a Number= "))

if n%2==0:

    print("The number is even")

else:

    print("the number is odd")

Q18. What are boolean operator?

Ans18.

Boolean operator are AND, NOT & OR which gives true and false as answer.

Q19. What will the output of the following?

1 or 0

**Output= 1**

0 and 0

**Output= 0**

True and False and True

**Output=False**

1 or 0 or 0

**Output=1**

Q20. What are conditional statements in Python?

Ans20.

As the name implies, a conditional statement is used in your programme to manage conditions. It helps in decision making. These statements guide the program while making decisions based on the conditions encountered by the program.

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

Ans 21.

'if', 'elif' and 'else' keywords are used as conditional statements in Python and helps in decision making based on conditions provided.

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 22.

n= int(input("Please enter your age ="))

if n>=18:

    print("I can vote")

else:

    print("I cant 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 23.

i\_list=[12, 75, 150, 180, 145, 525, 50]

list\_sum=0

for num in i\_list:

    if num%2==0:

        list\_sum=list\_sum + num

print(list\_sum)

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

Ans 24.

N=list(map(int,input("Enter three numbers =").split()))

print(N)

g=0

for num in N:

    if num>g:

        g=num

print(g)

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 25.

list1=[12, 75, 150, 180, 145, 525, 50]

print(list1)

for n in list1:

    if n%5==0:

      if n<150:

        print(n)

        continue

      if n>500:

        print(n)

        break