***Assignment 1***

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

Python is a general-purpose language, which means it's designed to be used in a range of applications, including data science,including data science, software and web development,automation, and generally getting stuff done.

Python is called a high level programming language because it is easy to use,runs on any platform,supports various libraries like Numpy,pandas,Matplotlib,scikit etc. Python also supports Artificial Intelligence and Machine Learning .

**Q2) Why is Python called a dynamically typed language?**

Python doesn't have any problem even if we don't declare the type of variable. It states the kind of variable in the runtime of the program.So, Python is a dynamically typed language

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

Pros of using python : python is easy to understand and easy to use as well.python is widely applicable and has a lot of libraries and it is object oriented.

Cons of using python : python has poor memory efficiency this can be problematic if you want to develop apps where you need to optimise memory use

**Q4) In what all domains can we use Python?**

Data science

AI & Machine learning

Automation

**Q5) What are variables and how can we declare them?**

Variable is a name given to a specific memory location . python has no command for declaring a variable

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

To receive information through the keyboard, Python uses the **input()** function**.**

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

By default, input returns a string. So the name and age will be stored as strings

**Q8) What is type casting?**

The conversion of one data type into another data type is called type casting.

**Q9. Can we take more than one input from the user using a single input() function? If yes, how? If not, why?**

Yes we can take multiple inputs from user with the help of split() method.lets look at small program to understand how to take multiple inputs

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

print("Total number of students: ", x)

print("Number of passed student : ", y)

print("Number of failed student : ", z)

print()

**Q10) What are keywords?**

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

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

Keywords are some predefined and reserved words in python that have special meanings. Keywords are used to define the syntax of the coding. The keyword cannot be used as an identifier, function, and variable name. All the keywords in python are written in lower case except True and False.

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

Indentation is the leading whitespace (spaces or/and tabs) before any statement in Python.

The reason why indentation is important in python is that the indentation serves another purpose other than code readability. Python treats the statements with the same indentation level (statements with an equal number of whitespaces before them) as a single code block.

**Q13. How can we throw some output in Python?**

The basic way to do output is the print statement. **print()**

**Q14. What are operators in Python?**

Operators are use to perform various operations on operands or input given by user.There are several types of operators in python they are as follows:

Arithmetic operator : - (to perform arithmetic operation)

logical operator : - (to perform logical operation)

Relational operator : -(to perform comparison operation)

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

/ = (float division) is use to perform float division

/ = (integer division) is use to perform integer division

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

**iNeuroniNeuroniNeuroniNeuron**

print("iNeuron"\*4)

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

n=int(input())

if n%2==0 :

print("number is even")

else:

print("number is odd")

**Q18. What are boolean operators?**

Boolean Operators are simple words (AND, OR, NOT or AND NOT) used as conjunctions to combine or exclude keywords in a search, resulting in more focused and productive results.

AND = both condition should be true to get result as true

OR = one of the condition should be true to get output as true

NOT = to negate the result

**Q19. What will be the output of the following?**

**1 or 0**

**0 and 0**

**True and False and True**

**1 or 0 or 0**

**OUTPUT :- 1 (one)**

**Q20. What are conditional statements in Python?**

The if statement is a conditional statement in python means the condition defined in if block to be true it will execute code block that is there

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

**If : -**The if statement is a conditional statement in python means the condition defined in if block to be true it will execute code block that is there otherwise it won't execute that code block.

**Elif :-** The elif is short for else if. It allows us to check for multiple expressions.

**Else :-** else is used with if statement.If the condition inside the **if** is false then the else block will get executed.

**Q22. Write a code to take the age of the person as an input and if age >= 18 display "I can vote". If the age is < 18 display "I can't vote".**

age=int(input())

if age >= 18:

print("I can vote")

else:

print("I can't vote")

**Output :-** 4

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]**

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

sum\_ = sum(numbers)

print(sum\_)

**Output :- 1137**

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

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

print("value of X : ",x)

print("value of Y :" ,y)

print("value of Z:" ,z)

if x>y and y>z :

print('x is greatest number')

elif y>x and y>z:

print('y is greatest number')

else:

print('z is greatest number')

**Output :- Enter three values: 1 2 3**

**value of X : 1**

**value of Y : 2**

**value of Z: 3**

**z is greatest number**

**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]**

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

for i in numbers:

if i%5==0 and i>500:

print(i)