**## Assignment Part-1**

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

Ans :- Python is a general-purpose language, meaning it can be used to create a variety of different programs and isn't specialized for any specific problems. Python is a high-level programming language that is known for its ease of readability. Python’s syntax is designed to be easy to read and understand resulting in fewer coding steps for developers than imposed by Java or C++

Q2. Why is Python called a dynamically typed language?

Ans :- When we declare a variable in C or alike languages, this sets aside an area of memory for holding values allowed by the data type of the variable. The memory allocated will be interpreted as the data type suggests. If it’s an integer variable the memory allocated will be read as an integer and so on. When we assign or initialize it with some value, that value will get stored at that memory location.

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

Ans :- **The pros of Python**

Python is easy to learn and read.

Python enhances productivity.

Python has a vast collection of libraries.

Python is free, open-source, and has a vibrant community.

Python is a portable programming language.

Python is an interpreted language.

**Cons Of Python**

Poor Memory Efficiency. To make it simple for the developer, Python needs a lot of memory space; this can be a tad problematic if you want to develop apps where you need to optimize memory.

Slow Speed.

Database Access.

Weak in Mobile Computing.

Runtime Errors.

Q4. In what all domains can we use Python?

Ans -There are many programming domains, but lets take the common domains:

* Scientific Applications.
* Business Applications.
* Artificial Intelligence.
* Systems Programming.
* Web Software.

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

Ans – Variables are the basic unit of storage in a programming language. These variables consist of a data type, the variable name, and the value to be assigned to the variable. Unless and until the variables are declared and initialized, they cannot be used in the program.

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

Ans- Python input() function is used to take user input. By default, it returns the user input in form of a string.

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

Ans - By default, input returns a string.

Q8. What is type casting?

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

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

Ans - In Python user can take multiple values or inputs in one line by two methods.

* Using split() method
* Using List comprehension

Using [split()](https://www.geeksforgeeks.org/python-string-split/) method :   
This function helps in getting multiple inputs from users. It breaks the given input by the specified separator. If a separator is not provided then any white space is a separator. Generally, users use a split() method to split a Python string but one can use it in taking multiple inputs.

Syntax : input().split(separator, maxsplit)

**Using**[**List comprehension**](https://www.geeksforgeeks.org/python-list-comprehension-and-slicing/)**:**   
List comprehension is an elegant way to define and create list in Python. We can create lists just like mathematical statements in one line only. It is also used in getting multiple inputs from a user.

Q10. What are keywords?

Ans - 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.

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

Ans - We cannot use a keyword as a variable name, function name, or any other identifier. They are used to define the syntax and structure of the Python language.

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

Ans - 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 block.

Python indentation is a way of telling a Python interpreter that the group of statements belongs to a particular block of code. A block is a combination of all these statements. Block can be regarded as the grouping of statements for a specific purpose.

Q13. How can we throw some output in Python?

Ans - Exceptions in Python applications can happen for many of the reasons stated above and more; and if they aren't handled well, these exceptions can cause the program to crash, causing data loss, or worse, corrupted data.

Q14. What are operators in Python?

Ans - Python divides the operators in the following groups:

* Arithmetic operators
* Assignment operators
* Comparison operators
* Logical operators
* Identity operators
* Membership operators
* Bitwise operato

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

Ans - / is regular division(returns float) and // is floor division(returns int).

Floor division was introduced in python 3.

eg:

1. x = 5/2 #2.5
2. y = 5//2 #2

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

```

iNeuroniNeuroniNeuroniNeuron

```

Ans - print ("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 - # Python program to check if the input number is odd or even.

# A number is even if division by 2 gives a remainder of 0.

# If the remainder is 1, it is an odd number.

num = int(input("Enter a number: "))

if (num % 2) == 0:

print("{0} is Even".format(num))

else:

print("{0} is Odd".format(num))

Q18. What are boolean operator?

Ans -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. This should save time and effort by eliminating inappropriate hits that must be scanned before discarding.

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

Q20. What are conditional statements in Python?

Ans - Conditional Statement in Python perform different computations or actions depending on whether a specific Boolean constraint evaluates to true or false. Conditional statements are handled by IF statements in Python.

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

Ans - If the condition following the keyword if evaluates as true, the block of code will execute. Note that parentheses are not used before and after the condition check as in other languages.

Multiple conditions can be checked by including one or more elif checks after your initial if statement. Just keep in mind that only one condition will execute:

You can optionally add an else response that will execute if the condition is false:

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 -

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]

```

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

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]

```