Name: - **Badgujar Janavi Vijay**

Topic: Introduction to Python

1. **What is Python? Why is it so popular?**

   Ans. Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis. 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

2. **What are the key features of Python?**

   - Easy to learn and use: Python has a simple syntax and straightforward approach to programming
   - Interpreted language: Python is an interpreted language, which means that code can be executed directly, without the need for compilation.
   - Dynamically typed: Python is dynamically typed, which means that data types are determined at runtime rather than at compile-time.
   - Object-oriented: Python is an object-oriented language, which means that it supports object-oriented programming (OOP) concepts such as encapsulation, inheritance, and polymorphism.

3. **What type of language is python? Programming or scripting?**

   Ans. Python is often categorized as a scripting language because it is often used for scripting tasks such as automating tasks, system administration, and data processing.

4. **What is pep 8?**

Ans. PEP 8 is a style guide for Python code. PEP stands for "Python Enhancement Proposal", which is a document thatdescribes proposed changes or improvements to the Python language. PEP 8 specifically provides guidelines on how towrite code that is easy to read and understand. It covers topics such as naming conventions, code layout, whitespace,and comments.The goal of

PEP 8 is to make Python code more consistent and readable across different projects anddevelopers. By following PEP 8, you can improve the readability of your code and make it easier for others tounderstand and contribute to your project.

5. Python an interpreted language. Explain

Yes, Python is an interpreted language. This means that Python code is executed directly by an interpreter without being compiled into machine code beforehand. When you run a Python script, the interpreter reads the code line by line and executes it immediately. The interpreter goes through the code and checks for syntax errors and other issues as it goes, stopping the execution of the code if it encounters any problem

6. How is memory managed in Python?

Memory management in Python is handled automatically by the Python interpreter. Python uses a technique called garbage collection to automatically manage memory allocation and deallocation.

7. What is namespace in Python?

In Python, a namespace is a mapping from names to objects. Namespaces are used to organize and control the visibility of names (i.e., variables, functions, classes, etc.) in a program. Each namespace is associated with a specific scope, which defines the region of the program where the names in that namespace can be accessed.

8. What is PYTHONPATH?

PYTHONPATH is an environment variable in Python that contains a list of directories where Python looks for modules and packages when importing them into a program. When you import a module or package in Python, the interpreter searches for it in a specific order of locations, which includesthe current working directory, built-in modules, and the directories listed in the **PYTHONPATH** environment variable.

9. Is python case sensitive?

Yes, Python is a case-sensitive language, which means that it distinguishes between uppercase and lowercase letters in variable names, function names, and other identifiers.

10. Is indentation required in python?

Yes, indentation is required in Python. Unlike many other programming languages that use curly braces or other
symbols to delimit blocks of code, Python uses indentation to define the structure of the code.