PYTHON Assignment Questions

1. Who developed Python Programming Language?

Ans: Guido van Rossum

2. Which type of Programming does Python support?

Ans: Python is an interpreted, interactive, object-oriented programming language. It incorporates modules, exceptions, dynamic typing, very high level dynamic data types, and classes. It supports multiple programming paradigms beyond object-oriented programming, such as procedural and functional programming.

3. Is Python case sensitive when dealing with identifiers?

Ans: Python is case sensitive when dealing with identifiers.

4. What is the correct extension of the Python file?

Ans: .py

5. Is Python code compiled or interpreted?

Ans: Python is an interpreted, interactive, object-oriented programming language.

6. Name a few blocks of code used to define in Python language?

Ans: A block is a piece of Python program text that is executed as a unit. Module, Function body, class definition, Script file, Script command, A module run as a top level script (as module __main__) from the command line using a -m argument is also a code block. The string argument passed to the built-in functions (eg. eval() and exec()) is a code block.

7. State a character used to give single-line comments in Python?

Ans: hash symbol #

8. Mention functions which can help us to find the version of python that we are currently working on?

Ans: sys.version

9. Python supports the creation of anonymous functions at runtime, using a construct called?

Ans: Lambda functions

10. What does pip stand for python?

Ans: Either "Pip Installs Packages" or "preferred installer program"

11. Mention a few built-in functions in python?

Ans:

Function	Description
abs()	Returns the absolute value of a number
bool()	Returns the boolean value of the specified object
float()	Returns a floating number
len()	Returns the length of an object

12. What is the maximum possible length of an identifier in Python?

Ans: 79 Characters

13. What are the benefits of using Python?

Ans:

- Free and Open-Source,
- Ease of comprehension,
- Extensive library,
- Supportive community,
- Artificial intelligence and machine learning,
- Data Analytics and more

14. How is memory managed in Python?

Ans: Python uses the dynamic memory allocation which is managed by the Heap data structure. Memory Heap holds the objects and other data structures that will be used in the program. Python memory manager manages the allocation or de-allocation of the heap memory space through the API functions.

15. How to install Python on Windows and set path variables?

Ans: Python installation steps:

Step 1 — Downloading the Python Installer

- Go to the official Python download page for Windows.
- Find a stable Python 3 release.
- Click the appropriate link for the system to download the executable file: Windows installer (64-bit) or Windows installer (32-bit).

Step 2 — Running the Executable Installer

- After the installer is downloaded, double-click the .exe file, for example python-3.10.10-amd64.exe, to run the Python installer.
- Select the Install launcher for all users checkbox, which enables all users of the computer to access the Python launcher application.
- Select the Add python.exe to PATH checkbox, which enables users to launch Python from the command line.
- Install it with default features, then click Install Now. and go to Step 4 - Verify the Python Installation.

  Note: There are other optional and advanced features. So to install Python with those options and features, click Customize installation and continue.

  The Optional Features include common tools and resources for Python

  - Select some or all of the following options:
  - Documentation: recommended
  - pip: recommended if want to install other Python packages, such as NumPy or pandas
  - tcl/tk and IDLE: recommended if plan to use IDLE or follow tutorials that use it
  - Python test suite: recommended for testing and learning
  - py launcher and for all users: recommended to enable users to launch Python from the command line
  - Click Next.

  The Advanced Options dialog displays.

Select the options that suit as per the requirements:

- Install for all users: recommended if there are more than one user on single computer
- Associate files with Python: recommended, because this option associates all the Python file types with the launcher or editor
- Create shortcuts for installed applications: recommended to enable shortcuts for Python applications
- Add Python to environment variables: recommended to enable launching Python
- Precompile standard library: not required, it might down the installation
- Download debugging symbols and Download debug binaries: recommended only if the plan to create C or C++ extensions
- Make note of the Python installation directory in case it is needed to reference it later.
- Click Install to start the installation.
- After the installation is complete, a Setup was successful message displays.

Step 3 — Adding Python to the Environment Variables (optional)

- Skip this step if selected, Add Python to environment variables during installation.
- If it is required to access Python through the command line but didn't add Python to the environment variables during installation, then it can be done manually.
- Setting the "Path" variable for Python means telling the computer where to find the Python interpreter so that it can run Python commands or scripts from any folder on the computer without having to navigate to the folder where Python is installed.

  Before starting, locate the Python installation directory on the system. The following directories are examples of the default directory paths:

  - C:\Program Files\Python310: if selected Install for all users during installation, then the directory will be system wide
  - C:\Users\Abc\AppData\Local\Programs\Python\Python310: if didn't select Install for all users during installation, then the directory will be in the Windows user path

    Note that the folder name will be different if different versions are installed, but will still start with Python.

- Go to Start and enter advanced system settings in the search bar.
- Click View advanced system settings.
- In the System Properties dialog, click the Advanced tab and then click Environment Variables.
- Depending on the installation:
- If all users were selected during installation, select Path from the list of System Variables and click Edit.

- If not, select Path from the list of User Variables and click Edit.
- Click New and enter the Python directory path, then click OK until all the dialogs are closed.

Step 4 — Verify the Python Installation

At this step it can be verified whether the Python installation is successful either through the command line or through the Integrated Development Environment (IDLE) application, if selected to install it.

- Go to Start and enter cmd in the search bar. Click Command Prompt.
- Enter the following command in the command prompt:

  python --version

  An example of the output is:

  Python 3.10.10

  Here it can be checked, the version of Python by opening the IDLE application. Go to Start and enter python in the search bar and then click the IDLE app, for example IDLE (Python 3.10 64-bit).

16. Is indentation required in python?

Ans: Yes, it is required to indicate a block of code.