**PYTHON ASSIGNMENT-01:**

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

**Ans**: - Python is an object oriented high level programming language. Object oriented means this language is based around object such as data rather than function and high level means its easy for human to understand.

Python is an interpreted language this means that every time a program is run its interpreter runs through the code and translate it into machine readable byte code.

**Q2. Why python called dynamically typed language?**

**Ans**:- Python is dynamically typed language this means that the interpreter perform type checking only when the code runs and the variable type allowed to change over its lifetime.

Python don’t have any problem even if we don’t declare the type of variable, it states kind of variable in the runtime of the program.

**Q3. List some pros (Advantages) and cons (disadvantages) of python programming language?**

**Ans:- Pros (Advantages) of Python:**

* Python is easy to learn
* Python enhance productivity
* Python has a vast collection of libraries
* Python is free, open source and has a vibrant community
* Python is portable programming language (means the same code can be used in different machine)
* Python is interpreted language (means a language in which the implementation execute instruction directly without earlier compiling a program into machine language)
* Python is object oriented language.
* It has built in data structure.
* Its widely applicable.

**Cons (Disadvantages) of Python:**

* Issue with design
* Slower than compile language
* Work environment
* High memory consumption
* Dynamically typed language
* Complex multithreading
* Garbage collection leads to potential memory losses.
* More memory required

**Q4. In what all domain can we use python?**

Ans: Domain to deploy python:

* Web Development
* Data science ( Python is an excellent tool for creating data driven solution)
* OS Development
* Machine Learning
* Artificial Intelligence
* Audio/video Application
* Gaming
* Scientific programming

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

**Ans**: Variable are the containers that storing the data values. Python has no command for declaring the variables.

Type of Variables;

Integer, Float, string, list, tuple, dictionaries.

E.g. Integer = 123

Float = 12.5

Name = “Harish”

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

**Ans**: Python allows for user to input, that means we are able to ask the user for input.

For eg. User\_name = input (“Enter your name”)

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

**Ans**: By default input returns a string datatype, so that name and age will be stored as string unless or until you define it.

**Q8. What is type casting?**

**Ans**: The conversion of one datatype into the other data type is known as type casting in python.

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

**Ans:** Yes we can ask to user for input more than one input in single input using split() function.

Eg. Name, age = input( “Enter your name & age ”).split()

**Q10. What are keywords?**

**Ans:** Python keywords are special reserved words that have specific meanings and purposes and cannot be used for anything but those specific purposes.

Keywords- True, False, If, else, and, none, break, as, while, for, return, with, yield, in, import,…etc

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

**Ans**: No, we cannot use keyword as variable, because keywords are used to define the syntax of the coding.

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

**Ans**: Indentation means the spaces at the beginning of a code line. Python uses four spaces as default indentation.

Use of indentation in python are to highlight the block of code.

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

**Ans**: The basic way to do output is the print statement

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

**Ans**: Operators are special symbols in Python that carry out arithmetic or logical computation. The value that the operator operates on is called the operand.

**The operators are—**

* Arithmetic operator (=, -, \*, /, //, %, \*\*)
* Comparison operator (>, <,>=, <=, ==, !=,)
* Logical operator (and, or, not)
* Bitwise operator
* Assignment operator (=, +=, -, -=,\*=,/=,%=,//=,\*\*=,&=)
* Special operator (is, not is)
* Membership operator (in, not in)

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

**Ans:** / is an arithmetic operator and used to output for the float value.

// is an arithmetic operator and used to output for the integer value.

**Q16 & Q17 are Numerical problem solved in VS code.**

**Q18. Write a Boolean operator?**

**Ans**: Boolean operator either True or False

**Q19 are Numerical problem solved in VS code.**

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

**Ans**: There are different types of conditional statement in python which are given below

 if, if-else, elif, nested if and nested if-else statement.

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

**Ans**:  if, else, elif these are the conditional statement and it is used to decision making that is required when you want to execute the code based on particular condition.

**Q22,23,24,25 are Numerical problem solved in VS code.**