

# Assigenment-01

## Theory part

1.What is Python, and why is it popular

=> Python is a programming lang. which is used to give instrunction to machine to perform accordingly.

It is popular because of the folowing reasons:-

- = Python is easy in compare to other programming languages.
- = Widely used in the industry.
- = vast majority of primitive data types

2. What is an interpreter in Python

=> An Interpreter is python programme that reads the python code and excutes it immediately.

3. What are pre-defined keywords in Python

=> Predefined keywords are the special keywords in python (reserved keywords) that cannot be used as a vaariable , and python already understands its uses and its specific purposes.

4. Can keywords be used as variable names

=> No

5. What is mutability in Python

=> Mutability in python means that value can be changed after declaring.

6. Why are lists mutable, but tuples are immutable

=> List is desigend to store the collections of items , where you can change ,append or delete the items after it creations.

=> Tuples in python meant to represent fixed collections of items (like records) that should not be change

once you created a tuple you cannot do the followings things like:-

==> Remoiving the elements

=> adding the new elements

=> changing the elements

7. What is the difference between “==” and “is” operators in Python

=> “==” it checks the data inside the two variables is the same.

=> “is” it checks if the both variables points to exact same memory locations

8. What are logical operators in Python

=> AND, NOT, XOR, OR, these are the logical operators in python

9. What is type casting in Python

=> type casting is the process of changing the formats of the dataTypes.

eg. `int a=5`

typecasting changing the element into a float value

`float(a)`

after typecasting the result will be 5.0

10. What is the difference between implicit and explicit type casting

=> Implicit Type Casting (Automatic Conversion) python automatically converts without you need to do anything

During this process no data is lost

=> Explicit TypeCasting (this is an manual Conversion)

=> Done manually by the programmer by using the function like `int()`, `float()`, `str()`

11. What is the purpose of conditional statements in Python

=> The purpose of the conditional statement is because they allow the programmers to choose different actions based on the certain condition.

=> To make decision in the code

=> to control the flow of the code

12. How does the elif statement work

=> The elif condition in the python stands for else if condition in the python code .

It allows you to check the multiple condition in an if else block

### Working of the elif Block

First the if block is executed , if the 'if' condition is True then if block is executed otherwise

=> The compiler goes to elif block if the elif (else-if) condition is true then its block is executed otherwise else block is executed

### 13. What is the difference between for and while loops ?

=> Difference between for Loop and while loop

= for loop is used when we know in advance that how many times the loop should execute

= It iterates over a sequence like list , range ,string

=> while Loop

= used when the number of the iteration is not known in advance .

= keeps running as long as the condition is true

### 14. Describe a scenario where a while loop is more suitable than a for loop.

=> A while loop is more suitable when you don't know the number of execution in advance , how many times the loop needs to run especially in a cases where a loop depends on a user input or a condition that may change unpredictably