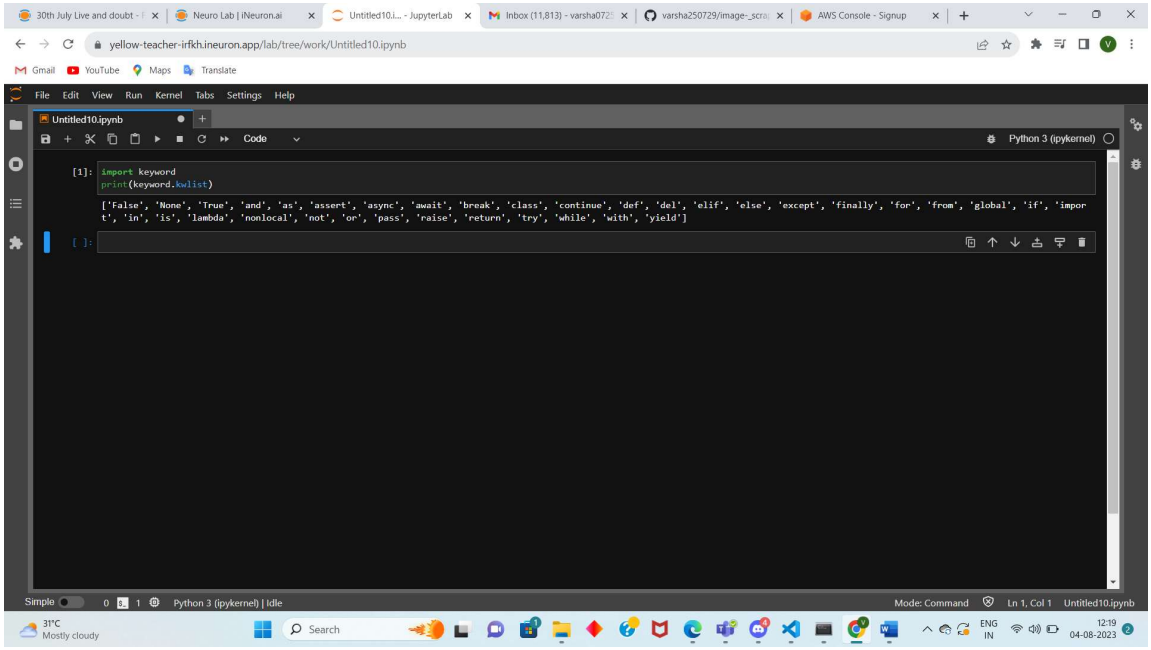
Assignment -6

Q.1. What are keywords in python? Using the keyword library, print all the python keywords.

Ans1:- Keywords in Python are reserved words that have predefined meaning ,that cannot be used as ordinary identifiers. They are used to define syntax & structure of the python language. Keywords are immutable.



Q.2. What are the rules to create variables in python?
Ans 2:- There are following rules:-

1. Variables are declared by writing the variable name & assigning it a value using the equal sign.
2. Variable name consist of letters, digit & underscore(_).They must start with a letter or an underscore. Variable names are case sensitive.
3. Variable names cannot start with a digit.
4. Variable names cannot contain spaces or special character like ! ,@,#,$ etc.
5. We cannot use reserved keywords as variable names.
6. Variable names cannot contain spaces.

Q.3. What are the standards and conventions followed for the nomenclature of variables in python to improve code readability and maintainability?

Ans3:- Following are some standards and conventions:-

1. Use lowercase letter for variable names & separate words with underscore.
2. Choose variable name that are meaningful & describe the purpose of variable.
3. If variable's value is a constant & should not be changed , use uppercase letter & underscore.
4. Avoid using a variable name that shadow a built in function.

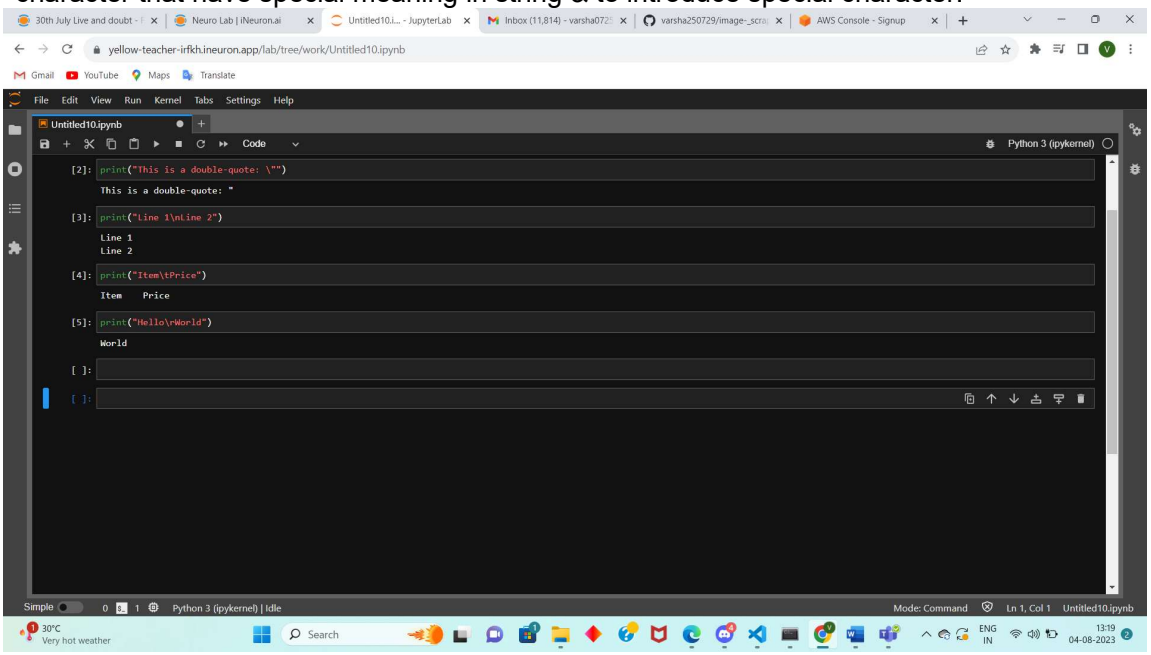
Q.4. What will happen if a keyword is used as a variable name?
Ans4:- If we use keyword as a variable name ,we will encounter a syntax error.

Q.5. For what purpose def keyword is used?

Ans5:- def Keyword is used to define a function. A function is a block of code that perform a specific task &can be reused throughout the program.
Using def keyword allow us to create our own custom function & encapsulate code into organized & reusable component.

Q.6. What is the operation of this special character '\'?

Ans6:- The special character '\' is called backslash or escape character. It is used to escape character that have special meaning in string & to introduce special character.



Q.7. Give an example of the following conditions:
(i) Homogeneous list
(ii) Heterogeneous set
(iii) Homogeneous tuple

Ans7:- **Homogeneous list:-** It is a list where all elements are of same data type. It is an ordered collection of items.

Ex:- Homogeneous list of integer:- int_list = [2,4,6,8,10]

Heterogeneous set:- It is a set where the element can be different data type. It is an unordered collection of items where every element is unique.

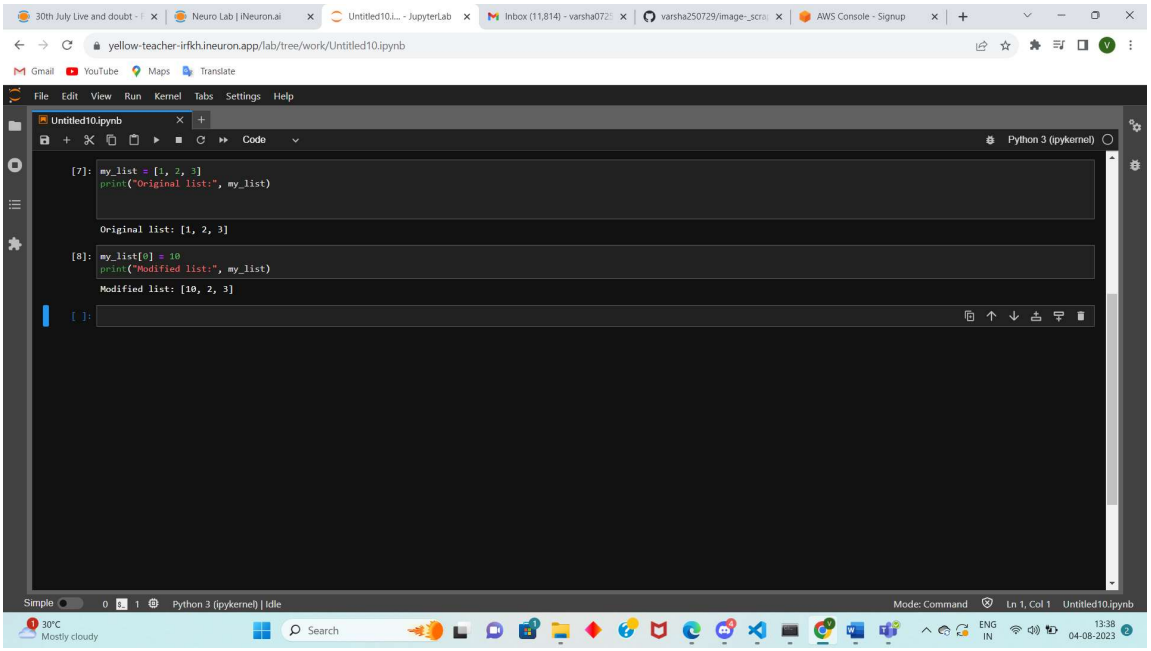
Ex:- hetero_set = {1,"apple",2.18,True}

Homogeneous tuple:- It is a tuple where all elements are the same data type.

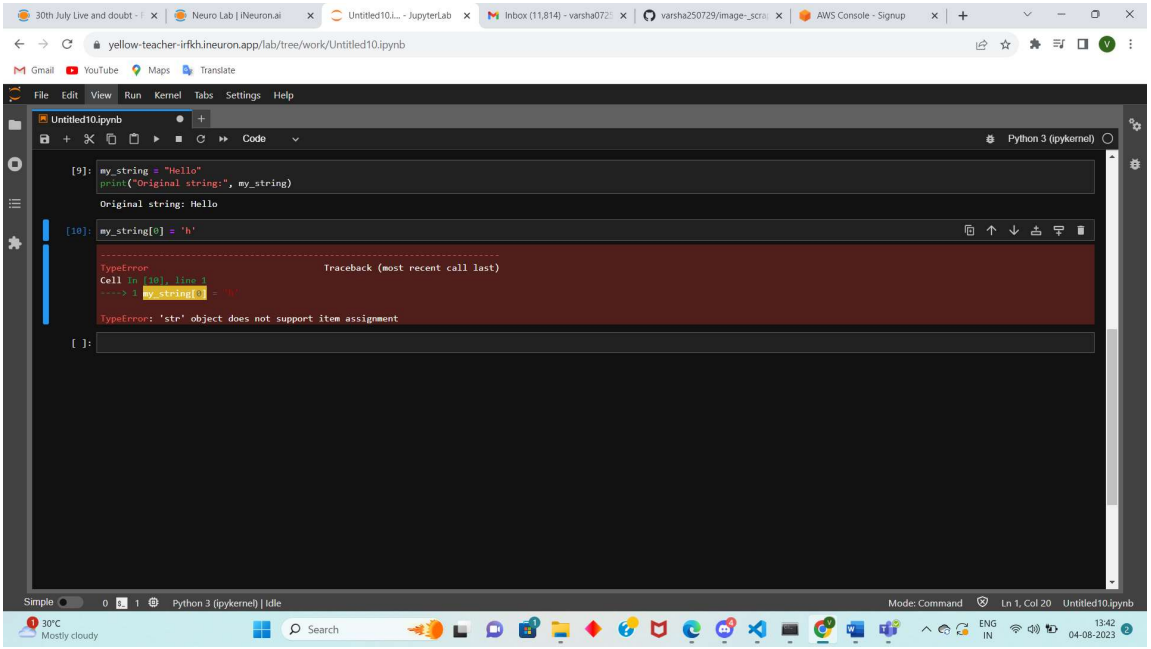
Ex:- string_tuple=("apple","banana","cherry","grapes")

Q.8. Explain the mutable and immutable data types with proper explanation & examples.

Ans 8:- Mutable Data Type:- :- Mutable Data Type are those whose value can be modified after they created . It means we can change the internal state of an object without crating a new object.



Immutable Data Types :- Immutable Data types are those whose values cannot be modified after they created. If we need to change the value, we have to create a new object.



Q.9. Write a code to create the given structure using only for loop.

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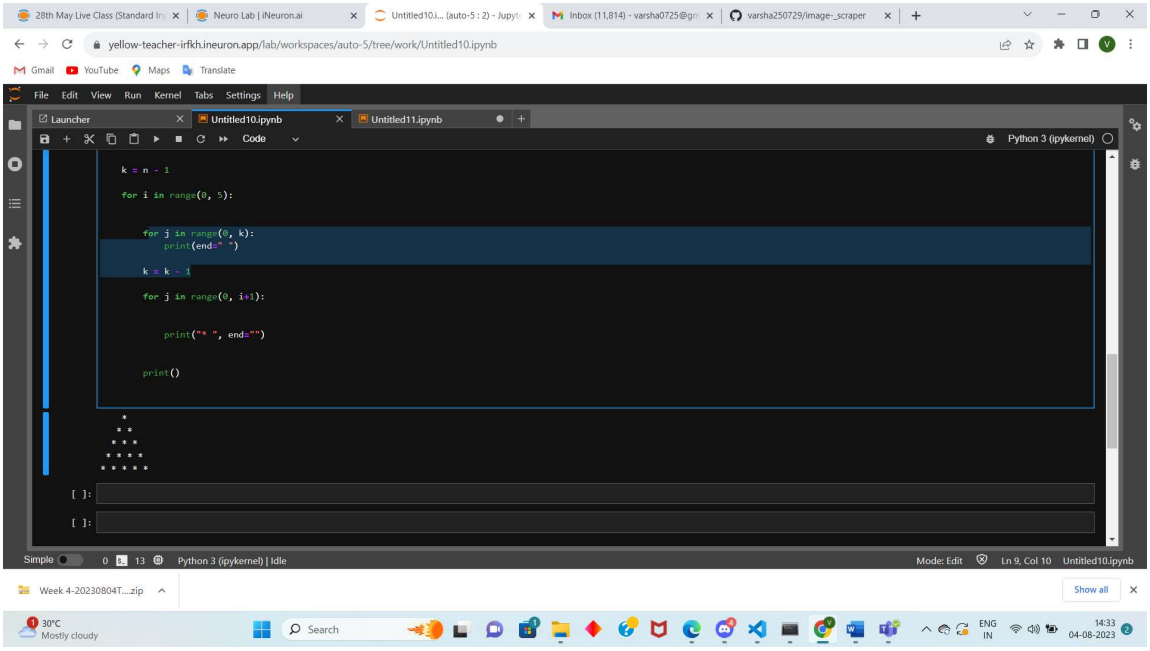
    *
   ***
  *****
 *******
*********
```

Ans:-



Q.10. Write a code to create the given structure using while loop.

```
|||||||||
 |||||||
  |||||
   |||
    |
```

Ans:-