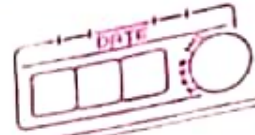


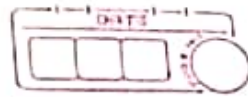
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Name :- Nikita Eknath Hiwale
class : 1st assignment
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1)

- The key difference between the two is that while list are mutable, tuple on the other hand are immutable object.
- this means that list can be modified, appended or sliced but tuple remain constant and cannot be modified.
 - python provide us with a number of in built-data structure such as are lists, tuple and set dictionaries to store and organize the data efficient manner.



e)

→ A set is a built-in data types used to store a collection of unique element.

1) Mathematical set operation :-

set support operation like union, intersection and difference and symmetric difference, making them useful collection of items.

2) Mutable :- sets are mutable, meaning you can add or remove element after creating them.

3) Iterability :- you can iterate over element in a set.

2 Example :-

```
L = {"apple", "banana", "mango"}  
print(L)
```

output :- {"apple", "banana", "mango"}

3)

→ Integer are used to represent whole numbers without any decimal points, float or floating-point number, with the decimal place.

- Integer is a numeric data types representing whole numbers without any decimal point.

- Float is a numeric data types representing decimal number.

Float are used in the calculation of mathematical operations



Integer
e.g. $x = 5$
infinite precision

Float
e.g. $y = 3.14$
limited precision.

4)

→ Dictionary (dict) :-
purpose :- used to store key-value pairs
where each key is unique within
the dictionary.

mutability :- mutable (can be changed
after creation).

✓ syntax :- defined using curly braces
{ }, with key value separated by a
colon (:).

✓ List :-

✓ purpose :- used to sequential data storage
where element can be added, removed,
or modified.

mutability :- mutable

✓ syntax :- within the square brackets []
element separated by comma (,)

✓ Tuple :- used to immutable of the
tuple

mutability :- immutable

✓ syntax :- defined using parenthesis ()

5)

→ doc string (documentation string) is a
string literal that occurs as the first
statement in a module, function,
class and method.

Doc string are accessing through the
— doc — attributes of the object
that document.

6)

→ The // operator are used for integer division or floor division.

① It divides the left operand by the right operand and return the largest integer less than or equal to quotient.

operators are special symbols, combines of symbol or keyword that designate some type of computation.

7)

→ To compare the object based on their value python equality operator (==) employed.

The == are used in python to checked if the value of two operands are equal.

② ii) is operator :- compare the identities of two object.

It check is both variable point to the same object in memory.

EX:- a = [1, 2, 3]

b = [1, 2, 3]

print(a == b)

o/p :- True

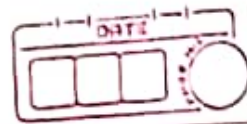
8)

→ The plus-equal operator += provides a convenient way to add a value to an existing variable and assign the new value back to the same variable.

EX:- x = 5

x += 3

print(x)



output : 8

- `+=` operator is used for augmented assignment.

9)

→ The `in` operator is used to check for the membership in sequence like string, lists, tuple, or dictionaries.

- string membership :- In string the substrings exist within the string.

Example

```
if 'world' in "hello world":  
    print("substring found")
```

10)

→ if statement is used to make decision based on conditions.

It allows you to execute a block of code only if a certain condition is true.

if condition :

 // code is execute if condition is true

Example :- `x = 10`

 if `x > 5` :

 print("x is greater than 5")

12)

→ condition :-

while loop requires a condition that when false, terminate the loop, whereas for loop iterate over a sequence until the sequence is exhausted.

Initialization :-

while loop require explicit initialization of variables outside the loop, whereas loop iterate over a sequence until the sequence is exhausted.

while loop :- Example

count = 0

while count < 5 :

print (count)

count += 1

For loop

Example

Fruit = ["apple", "Mango"]

for fruits in fruits :

print (fruit)