

Name : Sandhya Subhash Lagde.

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First class Assessment Test.

23

30

①

- 1] List and tuple are both sequence data type.
- list is a mutable data type.
 - Collection of values.
 - List defined using square brackets `[]`.

②

for example : `my-list = [1, 2, 3]`.

2] Tuple

- tuple is a immutable collection of values.
- tuple defined using parentheses `()`.

for example : `my-tuple = (1, 2, 3, 4)`.

③

- set in python are designed for specific purpose, leveraging their unique character, leveraging their unique character.

① storing unique elements:- set are ideal for situation where you need

② → This float datatype in python is used to store the floating point value or the decimal value. and the integer data type is use to store the integer.

② Set operation: Set provide several method for performing mathematical set operation.

③ Intersection: finding common element betⁿ. two set.

④ Membership testing: Set offer fast membership testing. you can quickly check, if a specific element.

2:3

→ Key and Float are distinct concept in python, serving diff. purpose.

• Key:-

• part of a dictionary:- Key are used to identify and access in a dictionary.

• must be unique:- Each key in a dictionary must be unique.

• immutable:- Key in a dictionary cannot be changed after they are created.

②

• Float:-

• Numeric data type:- float represents real number with decimal point.

• mutable:- you can perform

mathematical operation on float
and change their values.
Ex:- my-float = 3.14159.

(4)

→ dictionary is a data structure that
store the data key-value pairs.
it's like a real world dictionary
where you look up a word (the
key) to find the definition (the value).

~~From a List:-~~

using zip() :- the zip() function
pair element from two list, creating
key-value pair of the dictionary.

(2)

keys = ["name", "age", "city"]
values = ["Alice", 30, "New York"]

From a Tuple:-

using zip :- it is similar to list
you can the use zip pair element
from two tuple.

keys = ("name", "age", "city")
values = ("Alice", 30, "New York").

(5)

→ doc string (documentation) are the
multiline string used to document
python code. they are written
within triple quotes.

("Doc string goes here") and are
used to explain what a function,
class, module or method does.

Ex:- Python

```
def greet(name):
```

```
    "greet the user with the  
    personalized message."
```

Q: 6

→ this is the *Floor division operator, it perform division but rounds the result down to the nearest whole number (integer).

①

Ex:-

$$7113 \div 2 = 2$$

Q: 7

Python has both `==` and `is` operators, but they have distinct purpose.

②

- `==` equality operator:- check if the values of two object are equal.
- evaluation of true or false.

- `is` (identity operator) :- it is the check if two variable refer to the same object in mem.

Q: 8

→ `+=` it is the operator in python is a shorthand for the in place addition.

②

- it combines the addition operator with assignment in a single st

Q.9

→ operator in python is used for matrix multiplication. it is a more concise and readable way to perform the matrix multiplication. Compare to the using nested loop.

- operands:- operator takes two operand, which must be matrix (numpy and array).

✓ multiplication:- it perform matrix multiplication.

- result:- the matrix represent the product of the two input matrices.

Q.10

ex:- `A = np.array([[1, 2], [3, 4]])`
`B = np.array([[5, 6], [7, 8]])`

`C = A @ B, print C`

o/p = `[[19 22]`
`[43 50]]`.

Q.10

→ ternary operator in python is a concise way to write conditional expressions.

✓ it provides a shorthand for writing an 'if-else' statement in a single line.

Q.11

⑪



Fundamental Control Flow Statement that allows you to execute different block of code based on a condition.

①

⑫



While loop are used to repeatedly execute a block of code as long as a certain condition remains true.

⑬



it is used to immediately exit for the loop, regardless of whether the loop condition has been met. It's like a "Stop" sign for the loop.