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2-2  
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Q1 Explain the difference between a list and a tuple in python. provide an example for each.

→ List Tuple

1) List is changable

1) Tuple is unchangeable.

2) List is created using `[]` square brackets.2) Tuple is created using `()` parenthesis.

3) Duplicate values allows in list

3) Duplicate value allows in Tuple

4) Ex -

List = `[1, 2, 3, 4]`

5) Ex

TUP = `(1, 2, 3, 4)`

Q.2

→ - Set is one datatype in Python  
- Set are created using curly braces.

- Set are unindexed.

- Duplicates are not allowed in the set.

Set1 = {"Apple", "Mango", "Banana"}  
Set2 = {"Cherry", "Papaya"}



- set by using the set1 and set2
- we can update set1 and set2
- we can access the elements of set using loops.
- we can delete set.

Q.3

→ float - float datatype is stores the Floating point value.  
Ex -  $a = 4.2$

Integer - Integer datatype stores the integer value.  
Ex -  $a = 4$

- ~~Float~~ by using the float we get more accurate answer.  
Ex =  $10 / 3 = 3.3333$

Q.4

- - Dictionary data-type are differ from list and tuple
- dictionary datatype are created using `{}` curly braces.
  - In dictionary key and values are in curly brackets.
  - duplicates are not allow in the dictionary but in list and tuples duplicates are allows.
  - dictionary is unordered but list are ordered.

Ex - dict = { "ABC" : 48 ,  
                  " PQR" : 49 ,  
                  "xyz" : 50 }



Snake

- Dictionary are created using curly braces within dictionary there are keys and values we can access keys and values from the dictionary.

Q.5

→ Doc string -

- The docstring is the part of string in python

- It is used to comment the multiple line

- the double quotes are use three time to create the docstring.

- Ex - `print("Hello")`

`'''Hello is printable'''`

- The docstring is say more about the code without execution.

Q.6

→ - // floor operator is used for

- Basically the operator are is used to perform operations between operands.

- The floor division operator is use to get the clear answer.

2 - `a = 10 / 3`

using the division operator we got the answer 3.333

- `a = 10 // 3`

using the floor division we got the answer 3



Q.8

→ ~~+~~ = This operator is perform the addition on the operand.

Q.7

→ - The == is comparison operator  
- We compare the two operands by using this operator  
- The is operator is used to check whether the element is present in the list or not.



Q.9

- - The <sup>eight</sup> operators are present in the python
- operators are used to perform operations on operands

2

- In python there are 8 operators.

- 1) Arithmetic operator
- 2) logical operator
- 3) unary operator
- 4) Ternary operator
- 5) identity operator.
- 6) Bitwise operator
- 7) Comparison operator

-  $a = 5, b = 6$   
 $c = a + b$   
 $\text{print}(c)$

Q.10

→ - If statement is used to execute the code if the condition is true.

- If the give condition is true then only the block will execute other wise if the block is not execute.

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Ex =

~~a = 10~~  
 $n = \text{int}(\text{input}(\text{"Enter number"}))$   
 if  $n \% 2 == 0$  :  
 $\text{print}(\text{"even"})$



12)

→ while loop -  
In the while loop block is written and then the condition is written at the end. It is used to iterate the loop.

for loop -  
for loop is used to iterate the loop.

2 for loop is used to initial condition and steps at the top.

Ex - for i in range (0, 6):  
    print(i)

Ex - while (i >= 2):  
    print(i)

13)

→ - break statement is used to break the execution of code. and it terminates the code.

ex for i in range (0, 6):  
    ~~if (i == 7):~~  
        break

14)

→ continue statement is used to escape the particular number and then continue the following code.



EX -

for i in range(0,6):

15)

→

Control Flow -

- The If-else is Conditional Statement which executes the block of code when the condition is true.

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