Python Advance Assignment_13

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Q1. Can you create a programme or function that employs both positive and negative indexing? Is there any repercussion if you do so?

Answer - Yes we can have function with both positive and negative indexing , and it have no repercussion.

Q2. What is the most effective way of starting with 1,000 elements in a Python list? Assume that all elements should be set to the same value.

Answer - The best way of doing this is : test = "my_list = [0] * 50" timeit(test)

Q3. How do you slice a list to get any other part while missing the rest? (For example, suppose you want to make a new list with the elements first, third, fifth, seventh, and so on.)

In [1]:

```
Answer - We can do it in the following way :
    list1 =[1,2,3,4,5,6,7,8,9]
    list2 = [::2]
```

```
  File "C:\Users\DELL\AppData\Local\Temp/ipykernel_11168/1748858770.py", li
ne 1
    Answer - We can do it in the following way :
                ^
SyntaxError: invalid syntax
```

In [4]:

```
list1 =[1,2,3,4,5,6,7,8,9]
list2 = list1[::2]
```

In [5]:

```
print(list2)
```

```
[1, 3, 5, 7, 9]
```

Q4. Explain the distinctions between indexing and slicing.

Answer - “Indexing” means referring to an element of an iterable by its position within the iterable. “Slicing” means getting a subset of elements from an iterable based on their indices.

Q5. What happens if one of the slicing expression's indexes is out of range?

Answer:- It might be surprising at first, but it makes sense when you think about it. Indexing returns a single item, but slicing returns a subsequence of items. So when you try to index a nonexistent value, there's nothing to return. But when you slice a sequence outside of bounds, you can still return an empty sequence.

Q6. If you pass a list to a function, and if you want the function to be able to change the values of the list—so that the list is different after the function returns—what action should you avoid?

Answer - We can perform any sort of action over the list and we should check for index,that we should not reach index out of bound.

Q7. What is the concept of an unbalanced matrix?

Answer:-Whenever the cost matrix of an assignment problem is not a square matrix, that is, whenever the number of sources is not equal to the number of destinations, the assignment problem is called an unbalanced assignment problem.

Q8. Why is it necessary to use either list comprehension or a loop to create arbitrarily large matrices?

Answer -Python features functional programming tools like map and filter for mapping operations over sequences and collecting results. Since this is such a common task in Python coding, Python made a new expression: the list comprehension which is more flexible than map and filter. List comprehensions apply an arbitrary expression to items in an iterable rather than applying function. It provides a compact way of mapping a list into another list by applying a function to each of the elements of the list.