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

**Ans :-**

Yes we can create a function that employs both positive and negative indexing.

The repercussion will be that if we want to access the elements with both positive and negative indexing, then it will become harder to access the elements in the middle of strings. But on the other side it will give advantage to access elements which implies between middle to end or start to end.

**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.**

**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.)**

**Ans :-**

We can use indices operator to get the specific elements which we want to.

**For ex:-**

a\_list = [1, 2, 3]

indices = [0, 2]

selected\_elements = [] #Initialize result list

for index in indices:

selected\_elements.append(a\_list[index]) #Add chosen items to result list

print(selected\_elements)

OUTPUT

[1, 3]

**Q4. Explain the distinctions between indexing and slicing.**

**Indexing:**Indexing is used to obtain individual elements.

**Slicing:**Slicing is used to obtain a sequence of elements.

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

Ans:-

In this case, slicing will consider all elements up to the maximal possible index. As it cannot slice further over non-existing elements, it stops and gracefully returns whatever slice it has already accessed.

**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?**

Ans:-

lists get modified because lists are mutable objects that are capable of being modified, and we can modify them

Objects are not copied when we pass them to a function. Any modification we make to the object is visible outside the function.

**Q7. What is the concept of an unbalanced matrix?**

Ans:-

A matrix is balanced if all cells in the matrix are balanced and a cell of the matrix is balanced if the number of cells in that matrix that are adjacent to that cell is strictly greater than the value written in this cell.

If a matrix doesn’t satisfy above condition then it can be called as unbalanced matrix.

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