Home Work - Day 7

Python List Datatype

1. Create a list of items using the list() Constructor and using [] of the given below:

1) Rose
2) Peony
3) Orchids
4) Snowdrop
5) Calendula
6) Aster
7) Tulips
8) Bluebell
9) Sunflower

2. Create program to find the length of the given list of the above example?

3. Create program to find the list of student details in the mixed datatypes?

4. Reverse a list in Python using the above example?

5. Concatenate two lists in the following order:

list1 = ["Hello ", "take "]

list2 = ["Dear", "Sir"]

6. Add new item to list after a specified item:

Write a program to add item 7000 after 6000 in the following Python List:

Given:

```
list1 = [10, 20, [300, 400, [5000, 6000], 500], 30, 40]
```

Expected output:

```
[10, 20, [300, 400, [5000, 6000, 7000], 500], 30, 40]
```

7. You have given a nested list. Write a program to extend it by adding the sublist ["h", "i", "j"] in such a way that it will look like the following list.

Given List:

list1 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]

 # sub list to add

sub_list = ["h", "i", "j"]

Expected Output:

```
['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n']
```

8. You have given a Python list. Write a program to find value 20 in the list, and if it is present, replace it with 200. Only update the first occurrence of an item.

Given:

```
list1 = [5, 10, 15, 20, 25, 50, 20]
```

Expected output:

```
[5, 10, 15, 200, 25, 50, 20]
```

9. Write a Python program to print a specified list after removing the 0th, 4th and 5th elements.

Given List: ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']

Expected Output: ['Green', 'White', 'Black']

10. Write a Python program to replace the last element in a list with another list.

Sample data: [1, 3, 5, 7, 9, 10], [2, 4, 6, 8]

Expected Output: [1, 3, 5, 7, 9, 2, 4, 6, 8]

11. Write a Python program to extend a list without append.

Sample data: [10, 20, 30] [40, 50, 60]

Expected output: [40, 50, 60, 10, 20, 30]

12. Write a Python program to append a list to the second list.

Sample data:

Number = [10, 20, 30, 40]

animal = ["Cat", "Dog", "Lion", "Ponda"]

Expected Output: [10, 20, 30, 40, 'Cat', 'Dog', 'Lion', 'Ponda']

13. What are the properties or characteristics of List in Python?

14. How to create a list in python?

15. How many types of modes do we have to Accessing items from a list?

16. How to Accessing single items from the list?

animal = ["Cat", "Dog", "Lion", "Ponda"]

17. How to Accessing Multiple items from the list?

animal = ["Cat", "Dog", "Lion", "Ponda"]

18. How to find length of the list?

19. What is the list datatype in python?

20. How many methods we do h Add elements to the list.

21. How to use the given list operators:

For the following examples, we assume that **l1** and **l2** are lists, **x, i, j, k, n** are integers.

l1 = [10, 20, 30, 40, 50] and **l2** = [60, 70, 80, 60]

Operation	Description
x in l1	Check if the list **l1** contains item **x**.
x not in l2	Check if list **l1** does not contain item **x**.
l1 + l2	Concatenate the lists **l1** and **l2**. Creates a new list containing the items from **l1** and **l2**.
l1 * 5	Repeat the list **l1** 5 times.
l1[i]	Get the item at index **i**. Example **l1[2]** is **30**.
l1[i:j]	List slicing. Get the items from index **i** up to index **j** (excluding **j**) as a List. An example **l1[0:2] is [10, 20]**
l1[i:j:k]	List slicing with step. Returns a List with the items from index **i** up to index **j** taking every k-th item. An example **l1[0:4:2]** is **[10, 30]**.
len(l1)	Returns a count of total items in a list.
l2.count(60)	Returns the number of times a particular item (60) appears in a list. The answer is **2**.
l1.index(30)	Returns the index number of a particular item (30) in a list. The answer is **2**.
l1.index(30, 2, 5)	Returns the index number of a particular item (30) in a list. But search Returns the item with maximum value from a list. The answer is **60** only from index number 2 to 5.
min(l1)	Returns the item with a minimum value from a list. The answer is **10**.
max(l1)	Returns the item with maximum value from a list. The answer is **60**.
l1.append(100)	Add item at the end of the list
l1.append([2, 5, 7])	Append the nested list at the end
l1[2] = 40	Modify the item present at index **2**
l1.remove(40)	Removes the first occurrence of item **40** from the list.
pop(2)	Removes and returns the item at index **2** from the list.
l1.clear()	Make list empty
l3= l1.copy()	Copy **l1** into **l2**