Practical ASSIGNMENT- 2

1. Write a python program to create a list of 12 elements containing various data types. Iterate through the list and print the element and datatype of each element.
Hint:
mylist = [9, 3.14, "gls", True, [1, 2, 3], (1,2,3), {1,2,3}, {"name": "Amar"}, None, 2+3j]

2. Write a python program to create a list of cities and Perform following operations on the list of cities.

a) Append a new city to the list.
b) Print the first and last city in the list.
c) Remove specific city from the list.
d) Check whether 'Amreli' is in the list or not.

3. Write a python program to create a tuple called 'months' containing the names of the any ten months of the year. Perform following operations on the 'months' tuple.

a) Print the fifth month.
b) Print the last 2 months.
c) Check whether 'October' is in the list or not.
d) Try to add a new month to the tuple (#this should result in an error)
e) Convert the tuple into a list, add remaining months, and then convert it back to a tuple.

4. Write a python program to create two sets, `set1` and `set2`, containing some common and unique elements. Perform following operations.

a) Display the number of elements of both the sets.
b) Find the intersection of `set1` and `set2`
c) Find the union of `set1` and `set2`.
d) Check if `set1` is a subset of `set2`.
e) Add an element to `set1` and remove an element from `set2`.
Display appropriate results to verify the output.

5. Write a python program to create dictionary called `student` with keys: "firstname", "lastname",”cmat” and "rollno" and fill in the values with your own information.

a) Print the value associated with the "rollno" key.
b) Add a new key-value pair to the dictionary, e.g., "city" and your city of residence.
c) Remove the "cmat" key from the dictionary.
d) Check if "city" is a key in the dictionary.
Display appropriate results to verify the output.

6. Write a python program to create a dictionary of book titles and their corresponding authors. Print all the book titles. Also print all the authors.

- Add a new book-title/author pair to the dictionary.
- Accept input from the user and remove any one book-title/author pair from the dictionary. Display appropriate results.

7. Write a python program to create dictionary called 'student' and create Pandas dataframe from that dictionary. Display appropriate output.

8. Write a python program to find the sum, average and minimum number from a list.

9. Write a python program to accept new value from the user and replace specific index in your list with new value.

10. Write a python program to sort the list in ascending order and descending order.

11. Write a python program to create a new list by putting square of each numeric element.

12. Write a python program to concatenate two lists and then display the reverse list.

13. Write a python program to append a list to second list.

14. Write a python program to sort a list of tuples alphabetically.

15. Write a python program to find the repeated items of a tuple.

16. Write a python program to create a new set with unique elements from both the sets by removing duplicate elements.

17. Write a python program to demonstrate the difference and symmetric difference operation on two sets.
[Symmetric difference contains elements that are in either of the sets but not in their intersection]

18. Write a python program to convert string to set, string to tuple and string to set.

19. Write a python program to convert set to list, set to tuple and set to string.

20. Write a python program to display the length of each element of the list.

21. Write a Python program to check whether each number is a prime or not in a given list of numbers.