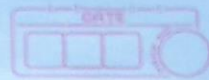


7pec

## OOP Assignment 07

21/18



### # Problem Statement:

Write a program in C++ to use map associative container.

The keys will be names of states & the values will be the populations of the states. The program runs, the user is prompted to type the name of the state. The program then looks in the map, using the state name as index & returns the population of the state.

### # Objectives

To learn concept of map associative container.

### # Outcomes

Implement state & its population program using C++ STL associative container map.

### # Hardware Requirements:

Manufacturer & Model: Acer Swift 3 (Intel Core i5 8th gen)

Installed Memory: 8GB RAM, 512GB SSD

Architecture: 64-bit

### # Software Requirements:

Operating System: Windows 10 home single language

IDE: Code-Blocks version 20.03

Compiler: g++ (version: 10.1.0)

### # Theory:

Map Associative container:

- stores elements in mapped fashion
- each element has a key value & mapped value.
- No two mapped values can have the same key.

Syntax: map.name[key]

parameters: key value mapped to the element to be fetched



Return: direct reference to the element at the given key value.

### Algorithm:

1. start
2. Give a header file to map associative container
3. Insert state names so that we get values as population of that state
4. Use populationMap.insert()
5. Display the population of states.
6. End.

### # Testcases

- ① Displaying the population of all states.
- ② Displaying population of states which are given as input by user.

### # Conclusion:

Hence, we have successfully studied the concept of map associative container.

```
Enter
    1 to print population of all states.
    2 to print population of particular state.
    0 to Exit.
```

```
:2
```

```
Enter state: Goa
```

```
The population of Goa is 1,458,545
```

```
Enter
    1 to print population of all states.
    2 to print population of particular state.
    0 to Exit.
```

```
:2
```

```
Enter state: Mumbai
```

```
Mumbai is Not Found in Database!
```

```
Total States Available: 36
```

```
Enter
    1 to print population of all states.
    2 to print population of particular state.
    0 to Exit.
```

```
:1
```

```
    Lakshadweep: 64,473
        Delhi: 16,787,941
    Daman and Diu: 586,956
Dadra and Nagar Haveli: 586,956
Andaman and Nicobar Islands: 380,581
    Chandigarh: 1,055,450
    Karnataka: 61,095,297
    Puducherry: 1,247,953
    Himachal Pradesh: 6,864,602
        Tripura: 3,673,917
    Jharkhand: 32,988,134
    Telangana: 35,004,000
    Chhattisgarh: 25,545,198
        Bihar: 104,099,452
    Maharashtra: 112,374,333
    Jammu and Kashmir: 12,258,433
        Gujarat: 60,439,692
    Arunachal Pradesh: 1,383,727
        Kerala: 33,406,061
        Odisha: 41,974,218
    Andhra Pradesh: 49,576,777
        Goa: 1,458,545
    Rajasthan: 68,548,437
    Madhya Pradesh: 72,626,809
        Manipur: 2,855,794
        Assam: 31,205,576
        Nagaland: 1,978,502
        Punjab: 27,743,338
    Meghalaya: 2,966,889
    Uttar Pradesh: 199,812,341
        Mizoram: 1,097,206
    Tamil Nadu: 72,147,030
        Haryana: 25,351,462
        Sikkim: 610,577
    Uttarakhand: 10,086,292
    West Bengal: 91,276,115
```