

NAME: AYUSH PRASHANT KALASKAR.

CLASS: S.E. COMP-I.

ROLL NO. : 69.

PRN. : F22111074

SEMESTER: SEM-III (2023-2024)

SUBJECT: OBJECT ORIENTED PROGRAMMING. (OOP) LAB.

ASSIGNMENT: NO: C7 :-

Q. QUESTIONS:-

Q1) What is Associative Container? Explain any two associative containers with their functions.

ANS. In C++, Associative container of STL allow us to store elements in a sorted order. The order of insertion of element is not considered in determining the position of the element. The elements of an Associative container can be accessed via key, also called the Search Keys.

Q. TYPES OF ASSOCIATIVE CONTAINER:-

1) MAP.

2) SET.

(1) MAP:-

Map is a container which stores the elements in a mapped fashion. Each element has a key value and a Mapped value. No two mapped values can have the same key values.

(2) SET:

Sets are a type of associative container in which each element has to be unique because the value of the element identifies it. The values are stored in a specific order i.e. Ascending or Descending.

MAP FUNCTIONS:-

1) begin() - Returns an iterator to the first element in Map

2) end() - Returns an iterator to the theoretical element that follows the last element in the map.

SPPU-TE-COMP-CONTENT - KSKA Git

Page No.			
Date			

- 3) `size()` - Returns the number of element in the map.
- 4) `insert(keyvalue, mapvalue)` - Adds a new element to the Map.
- 5) `erase(const g)` - Removes the key value 'g' from the Map.

SET FUNCTIONS:-

- 1) `begin()` - Returns an iterator to the first element in the set.
- 2) `end()` - Returns an iterator to the theoretical element that the last element in the set.
- 3) `insert(const g)` - Adds a new element 'g' to the set.
- 4) `find(n)` - This function searches for element n in the set and returns an iterator pointing to the position of the found element.
- 5) `clear()` - removes all elements from the set.

Q2.] Explain iterator and Operations performed by iterator.
ANS. Iterators are used to point at the memory addresses of the STL containers. They are primarily used in sequence of numbers, characters, etc. They reduce the complexity and execution time of the program.

OPERATIONS PERFORMED BY ITERATOR:-

- (1) `begin()`: This function is used to return the beginning position of the container.
- (2) `end()`: This function is used to return the after end position of the container.
- (3) `advance()`: This function is used to increment the iterator position till the specified number mentioned in its arguments.
- (4) `next()`: This function returns the new iterator that the iterator would point after advancing the positions mentioned in the arguments.

SPPU-TE-COMP-CONTENT - KSKA Git

(5) `prev()`: This function returns the new iterator that the iterator would point after decrementing the positions mentioned in its arguments.