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Lecture #8
STL Containers (cont.)

chapter:11

Associative Containers

Associative containers are non-linear containers that can locate elements stored in the container quickly. Such containers can store sets of values or *key/value* pairs. The four associative containers are set, multiset, map, and multimap.

These containers provide fast storage and quick access to retrieve elements using *keys* (often called search *keys*). Elements in an associative container are sorted according to some sorting criterion. By default, the elements are sorted using the < operator.

Common Functions in Associative Containers

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Functions	Description
`find(key)`	Returns an iterator that points to the element with the specified key in the container.
`lower_bound(key)`	Returns an iterator that points to the first element with the specified key in the container.
`upper_bound(key)`	Returns an iterator that points to the next element after the last element with the specified key in the container.
`count(key)`	Returns the number of occurrences of the element with the specified key in the container.

Associative Containers

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The STL provides eight associative containers with either of specific features as:

1) The container is a set or a map

2) The container require unique key or allows multiple keys

3) The container stores elements in order or not

Pair of values in its simplest

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Example1: Using pair

PairDemo

Associative Containers: map

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Example1: Using map container

MapDemo

Associative Containers: map

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Example2: Using map container

MapDemo

Associative Containers: multimap

Example1: Using multimap container

MultiMapDemo

MapToMultiMapDemo

Associative Containers: set

Example1: Using set container

SetDemo

Thank you