

Zip Code

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Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

ZipCodeBuffer	Reads and processes a CSV file containing Zip Code records	3
ZipCodeProcessor	Processes and organizes Zip Code data	4
ZipCodeRecord	Stores information about a Zip Code	5

Chapter 2

Class Documentation

2.1 ZipCodeBuffer Class Reference

Reads and processes a CSV file containing Zip Code records.

```
#include <zip_code_buffer.h>
```

Public Member Functions

- bool [loadCSV](#) (const std::string &filename)
Loads a CSV file containing zip code data into memory.
- std::vector< [ZipCodeRecord](#) > [getRecords](#) () const
Retrieves all stored zip code records.

2.1.1 Detailed Description

Reads and processes a CSV file containing Zip Code records.

2.1.2 Member Function Documentation

2.1.2.1 getRecords()

```
std::vector< ZipCodeRecord > ZipCodeBuffer::getRecords ( ) const
```

Retrieves all stored zip code records.

Returns

A vector of [ZipCodeRecord](#) objects.

2.1.2.2 loadCSV()

```
bool ZipCodeBuffer::loadCSV (  
    const std::string & filename )
```

Loads a CSV file containing zip code data into memory.

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Parameters

<i>filename</i>	The name of the CSV file to read.
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Returns

True if the file was loaded successfully, otherwise false.

The documentation for this class was generated from the following files:

- zip_code_buffer.h
- zip_code_buffer.cpp

2.2 ZipCodeProcessor Class Reference

Processes and organizes Zip Code data.

```
#include <zip_code_buffer.h>
```

Public Member Functions

- void [organizeByState](#) (const std::vector< [ZipCodeRecord](#) > &records)
Organizes zip code records by state.
- std::map< std::string, std::tuple< [ZipCodeRecord](#), [ZipCodeRecord](#), [ZipCodeRecord](#), [ZipCodeRecord](#) > > [findExtremeZipCodes](#) () const
Finds the extreme zip codes (east, west, north, south) for each state.
- void [printResults](#) () const
Prints the results in a formatted table.

2.2.1 Detailed Description

Processes and organizes Zip Code data.

2.2.2 Member Function Documentation

2.2.2.1 findExtremeZipCodes()

```
std::map< std::string, std::tuple< ZipCodeRecord, ZipCodeRecord, ZipCodeRecord, ZipCodeRecord > > ZipCodeProcessor::findExtremeZipCodes ( ) const
```

Finds the extreme zip codes (east, west, north, south) for each state.

Returns

A map where each state is mapped to its corresponding extreme zip codes.

2.2.2.2 organizeByState()

```
void ZipCodeProcessor::organizeByState (
    const std::vector< ZipCodeRecord > & records )
```

Organizes zip code records by state.

Parameters

<i>records</i>	A vector of ZipCodeRecord objects to be categorized by state.
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The documentation for this class was generated from the following files:

- `zip_code_buffer.h`
- `zip_code_buffer.cpp`

2.3 ZipCodeRecord Struct Reference

Stores information about a Zip Code.

```
#include <zip_code_buffer.h>
```

Public Attributes

- `std::string zip_code`
- `std::string place_name`
- `std::string state`
- `std::string county`
- `double latitude`
- `double longitude`

2.3.1 Detailed Description

Stores information about a Zip Code.

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The documentation for this struct was generated from the following file:

- `zip_code_buffer.h`

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