Map uses templating so that any tested data type can be used, ins, string, struct, class

Data for key pair is stored in struct

Maps store its data in an array pointer to struct

Map stores the size of array and current size and if both data types are trivially copiable

Default settings array size 10

Map starts at 10 small number so that it doesn’t require too much space for small usages

Array doubles in size when trying to add data to full array – as current amount of data is likely to meet the next double.

Added iterator sub class which can iterate over the map

Map contains a default constructor for making a new class, it also contains a Copy constructor and a = overload, for copying maps

Set size resizes array, force does not need to check size and can cause data loss

Insert finds if key exists, checks array size, finds pos, moves data and inserts into array

Erase removes found key and move data back

Clear deletes array and makes a new one with default settings

Find returns pointer to value given a key or nullptr if not found

Useful functions: size, maxsize, empty

Custom data requires < operator to sort the data

Recommendations

Designed for maintenance and readability

Size is concern replace the struct with two arrays as structs make take up more space