Create a Manager class that has a std::map as an attribute.

The purpose of this map is to maintain a mapping of integers (int) to std::list. The integers represent the hash id for a particular sprite and the list will contain zero or more sprites with the same hash id. For efficiency reasons, the list should store pointers to sprites (not copies of the game sprites).

Initially, the map will have COLUMNS \* ROWS entries, i.e. assuming the above example, our map will have (4 \* 4 = 16) entries.

Remember, each entry in map is a tuple or a key/value pair.

In this application, the key is a hash id numbered from 0 upwards (to 15 in this example). The corresponding value is a std::list which is initially empty.

Perform the above initialisation steps in the constructor method for your manager class.

Assuming a 4x4 grid, at the end of this step, you will have a mapping of hash ids to empty lists.

The map will have 16 entries, so there will be 16 keys and 16 values (lists). For example, hash id 0 will map to an empty list and so on all the way up to hash id 15 which maps to an empty list.