

Passport exercise

4: PassportManager class

Private fields

- `Passport* passportsArray[10]` (array of 10 passport-pointers = array of 10 passport-addresses)
- `int passportsCount`

Public methods

- Constructors
 - `PassportManager()`
 - Initialize the array so that each element = `nullptr`
 - Initialize `passportsCount` to be 0
- Getter methods
 - `int getPassportsCount`
 - `Passport* getPassport(int index)`
 - Return the passport-pointer at the given index
 - `int getPassportIndex(string fullName)`
 - Search the array for a passport with a matching full name
 - If the search is successful, return the index
 - Else, return -1
 - `int getPassportIndex(Passport* passport)`
 - Search the array for a passport-pointer equal to the argument
 - If the search is successful, return the index
 - Else, return -1

- Action methods
 - bool **addPassport**(string, string, double, Date, StreetAddress)
 - If there is enough space in the array for another element, dynamically allocate a new Passport object
 - Store the object's address in the array
 - Update **passportCount**
 - Return true if and only if the action was successful
 - bool **removePassport**(int index)
 - If the index is valid, remove the passport at that index
 - This means: deallocate the Passport object pointed to by the pointer at that index
 - Move all subsequent valid pointers backwards in the array by one position
 - Set the last of these to **nullptr**
 - Return true if and only if the action was successful
 - bool **removePassport**(Passport* passport)
 - If the passport-pointer is found in the array, remove the passport at that index
 - Update **passportCount**
 - Return true if and only if the action was successful
 - bool **removePassport**(string fullName)
 - If a matching passport is found in the array, remove the passport at that index
 - Update **passportCount**
 - Return true if and only if the action was successful
- Other methods
 - string **toString**()
 - Return string description of the object
 - void **display**()
 - Display the result of toString() in the console