In this problem, you will write the classes for modelling a daycare that keeps track of which children are currently there, and what each child is doing. Each completed sub task below will award points, so you don't need to solve all tasks. Each task corresponds to a test, and you may submit your solution as many times as you like.

All fields must be private and all methods and constructors must be public. The return type of methods is void, if no return value is mentioned.

Sub tasks:

1. Create a Child class to represent a child at a daycare. A child has a name (a text string), an age (a positive whole number), an isHere (true/false) of whether they are currently present at the daycare , and an activity (a text string). All fields must be private.
2. Add a constructor to the class Child that takes the name and age as parameters, and initializes the corresponding fields. When created, a child is not here, and has activity null.
3. Add a method setIsHere(isHere) that updates the isHere field to the value given as parameter.
4. Add an overloaded method setIsHere() that uses setIsHere(isHere) as a helper method to set isHere to true.
5. Add a method isOlderThan(ageLimit) that returns true if the child is at least the given (int) ageLimit, and false otherwise.
6. Add a method setActivity(newActivity) that updates the activity, but only if the child currently is doing nothing (has null activity), or the the newActivity is null. It must return true or false indicating whether the activity successfully changed.
7. Add a method getActivity() that returns the current activity of the child.
8. Add a display() method, that prints the information of the child to standard out, using the format "name (age) - is [not ]here[, activity if isHere and not null]"  
   Examples:
9. "Anna (5) - is here"
10. "Charlie (4) - is not here"

"Bobby (3) - is here, riding a balance bike"

1. Create a DayCare class, for representing the day care where the children are during the day. A day care has a name (a text string), children (an array of Child), and a childCount (a whole number) representing the total number of children signed up.
2. Add a constructor to DayCare that takes as parameters the name (a text string), and a maximum number of children (an int). It must initialize children to be an array of size equal to the maximum number of children specified, and the childCount must initially be 0.
3. Create a TooManyChildren class, that should be a checked exception, with an empty constructor (due to a bug on the server code, the empty constructor must be explicitly written; an implicit empty constructor is not accepted).
4. Add a method signUp(Child) to DayCare, which should sign the child up in the day care. The child must be added to the children array if there is room left, and otherwise throw a TooManyChildren.
5. Add a method attemptSignUp(Child), which uses signUp(Child) as a helper method, but which instead of throwing an exception returns true or false depending on whether the sign up succeeded.
6. Add a method display(), which displays all of the children currently signed up to this daycare. The first line should be "--- name of day care (max capacity) ---", followed by the display string of each child in the order they were signed up in