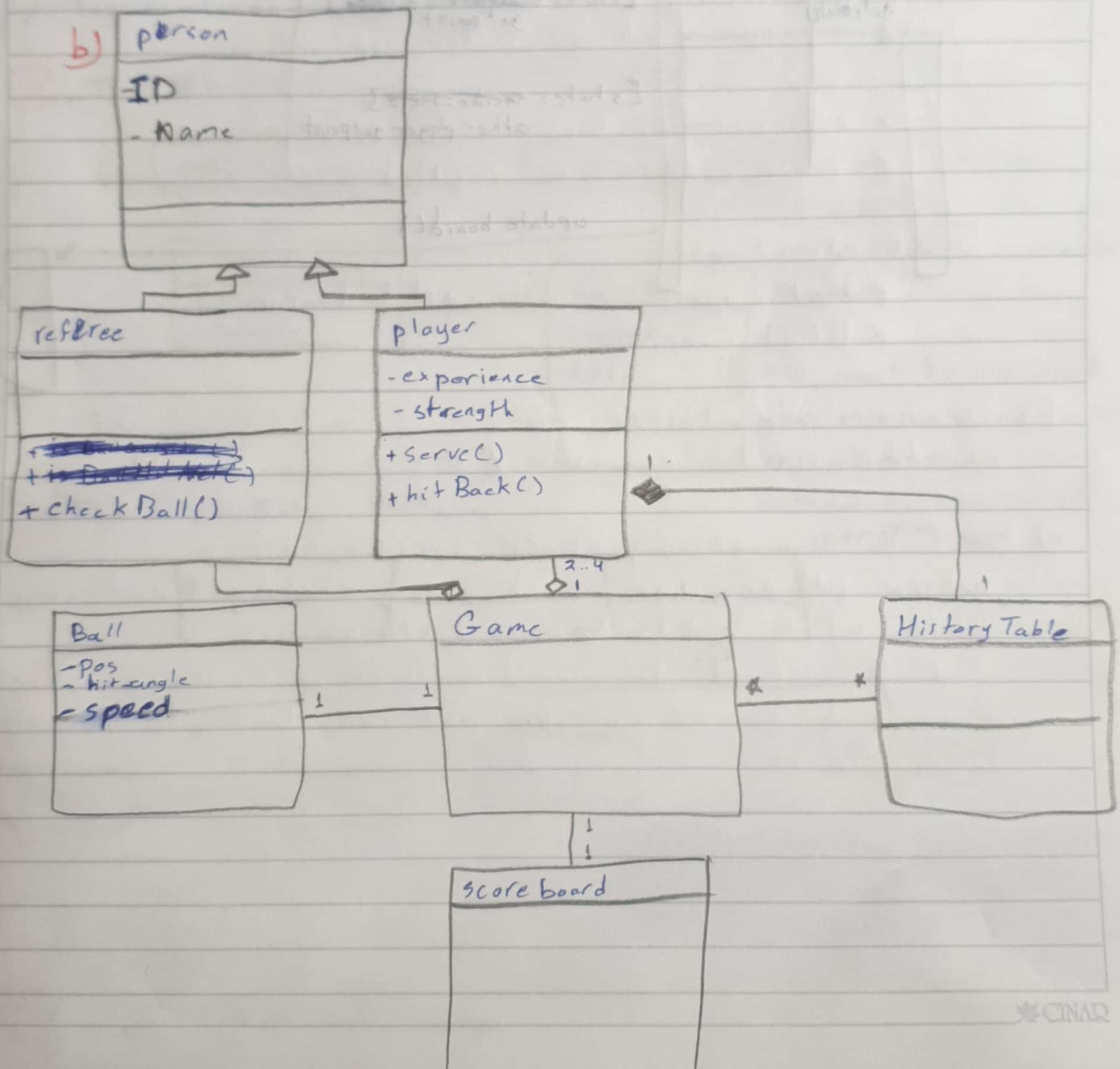
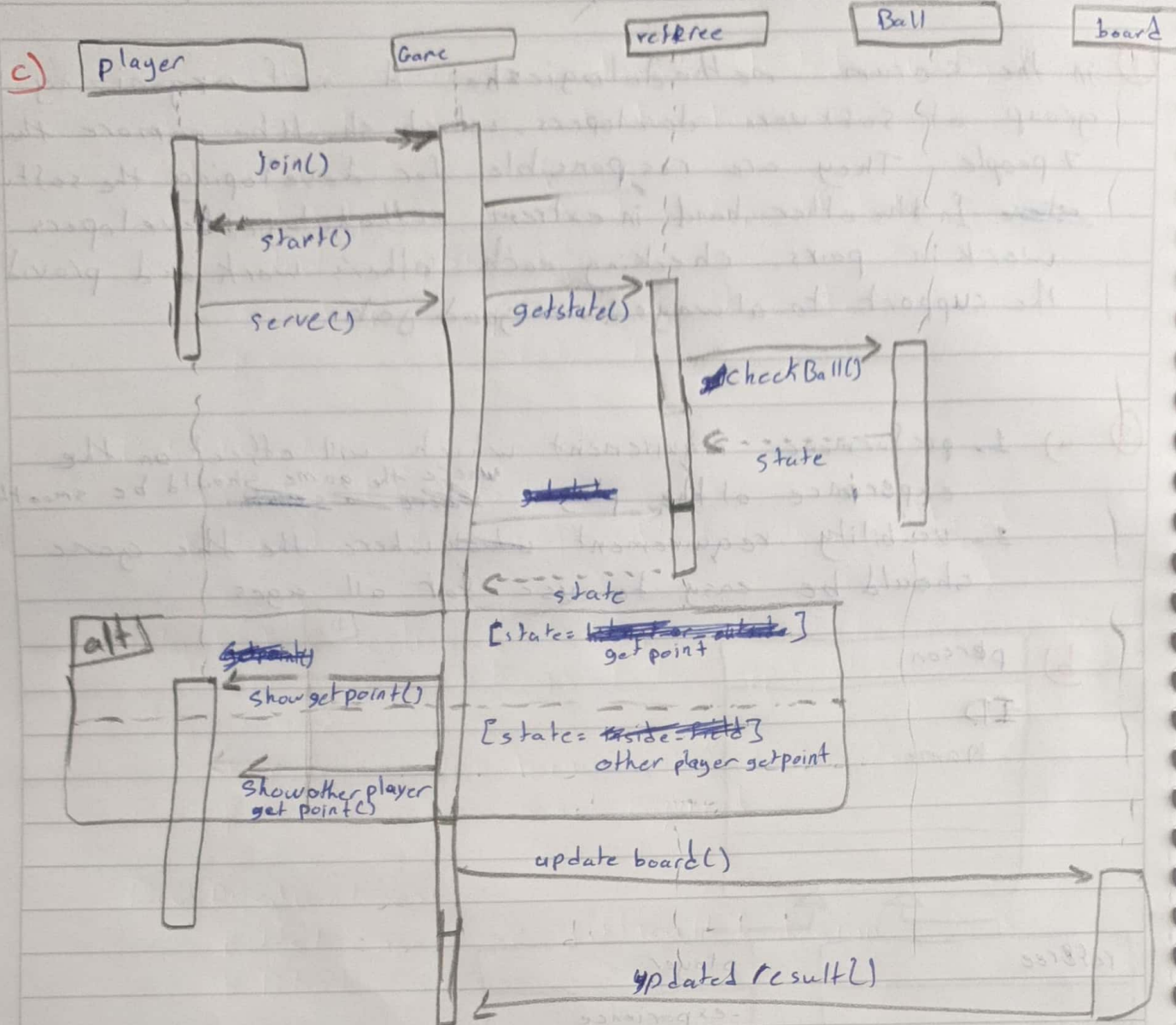


- ① in the Scrum methodologies has A self-organizing group of software developers, which should be no more than 7 people. They are responsible for developing the software ~~there~~ In the other hand, in extreme methodologies developers work in pairs, checking each other's work and providing the support to always do a good job

- ② a) 1- performance requirement which will effect on the experience of the player ~~where the game should be smooth~~
 2- usability requirement ~~which~~ where the the game should be easy to use for all ages





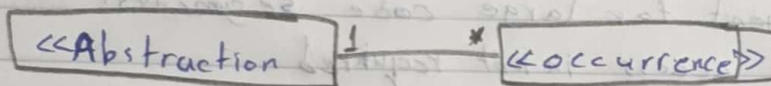
③ MVC (model-view-controller) pattern

Separate presentation and interaction from system data where model component manage the system data and the view component manage how the data presented to user and finally View component manages the interaction between model and view

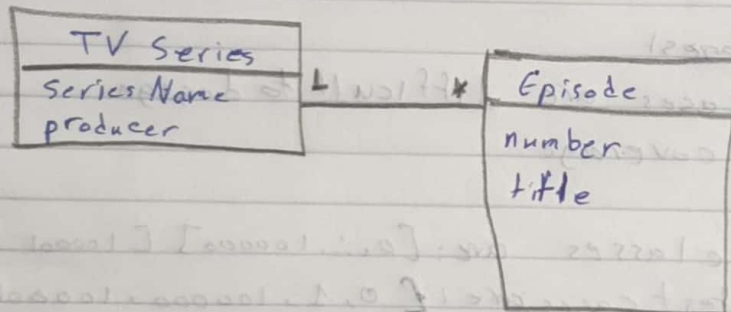
layered architecture pattern

Organizes the system into layers with related functionality associated with each ~~layer~~ layer - a layer provides services to layers above

④ * The Abstraction-Occurrence Pattern

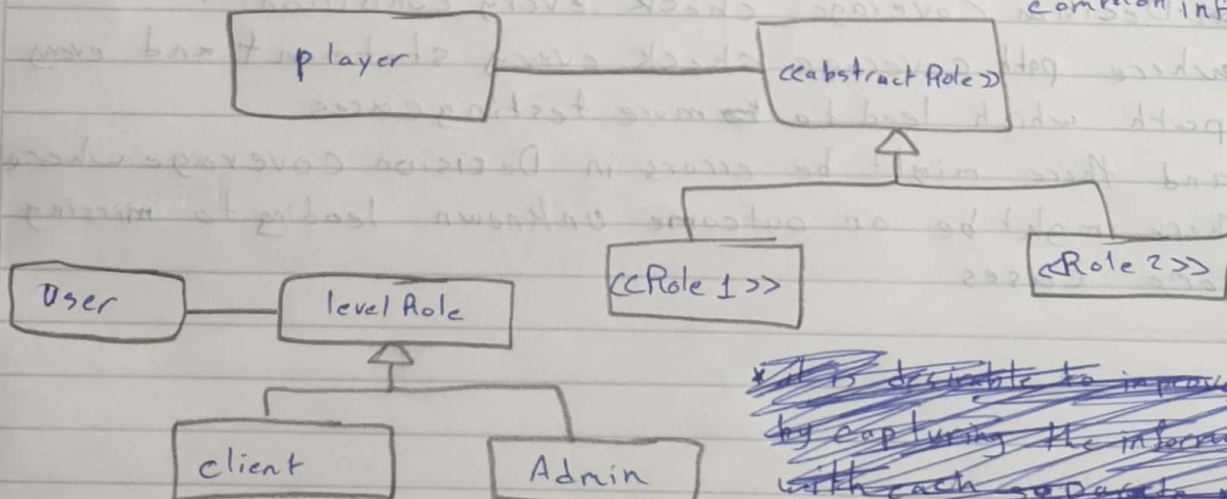


* what is the best way to represent such sets of occurrences in a class diagram?



you want to represent the members of each set of occurrences without duplicating the common information

* The player-Role Pattern



~~it is desirable to improve encapsulation by capturing the information associated with each separate role class~~

How do you model player can change roles and possess more than one role?
- by avoid multiple inheritance

⑤ a) white-box testing is the detailed investigation of internal logic and structure.

Advantages:

- * it help to find out which type of data can help in testing application
- * it help in optimizing the code
- * can remove extra lines of code

Disadvantages:

- * need skilled tester
- * some times it is impossible to look at ^{all code} every

Black-box testing: is testing without having any knowledge of the interior workings of the application

Advantages:

- * efficient for large code segments.
- * code access is not required

Disadvantages:

- * test cases are difficult to design
- * Blind coverage

b) i) equivalence classes are: $[0, \dots, 100000]$ $[100001, \dots, \infty]$

ii) additional test cases are $\{0, 1, 100000, 100001\}$

c) ~~Decision~~ Decision Coverage check every condition

where path coverage check every statement and every path which lead to ~~to~~ more testing cases and there might be errors in Decision coverage where there might be an outcome unknown leading to missing some cases