Object-Oriented-Programming #LEC-7

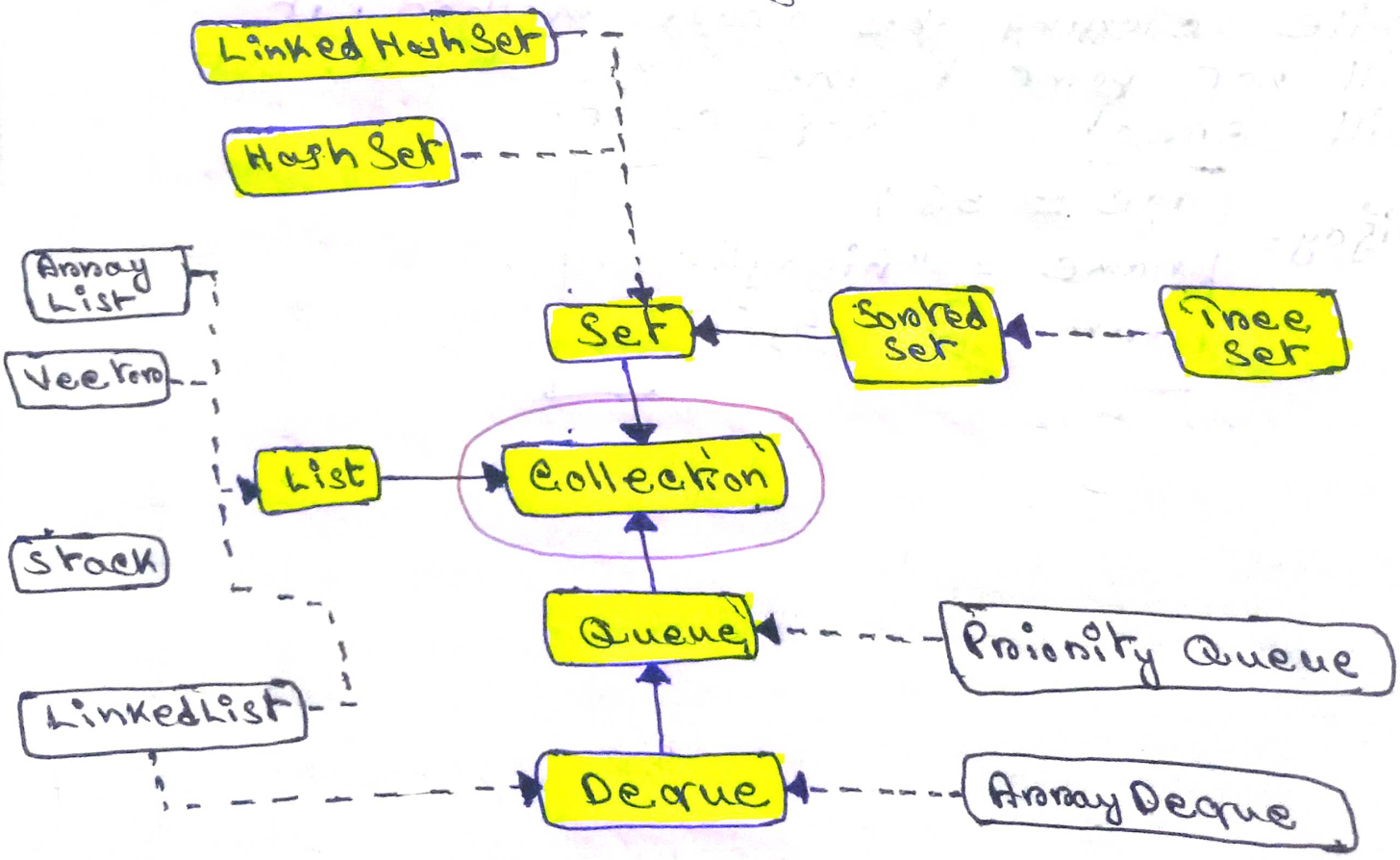
▶ Collections Framework:

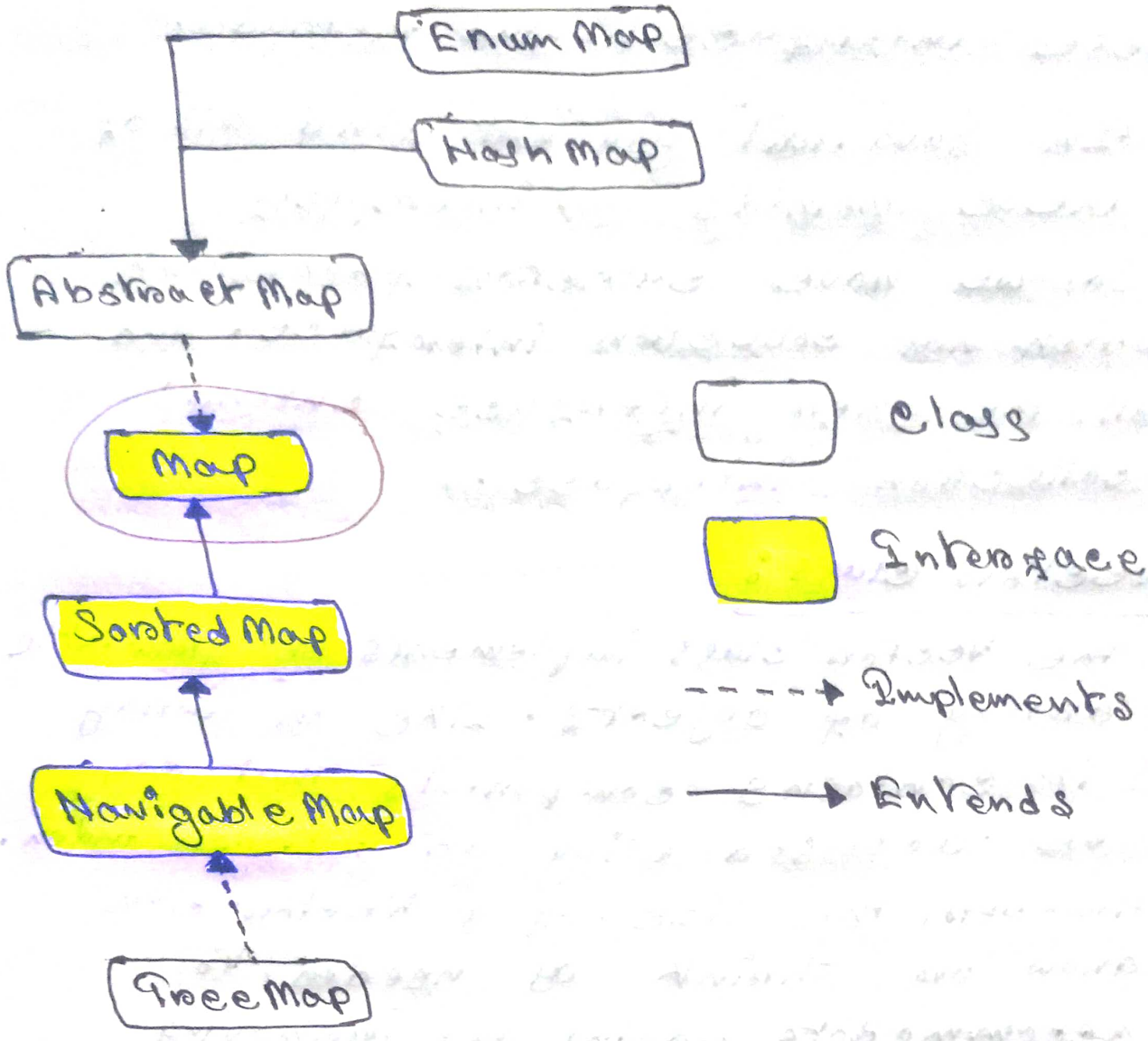
In the collections framework we are going to use the internal linked list that Java has provided us.

• Need of Collection Framework:

In Java Collection Framework enables the user to perform various data manipulation operations like sorting data, searching, sorting, insertion, deletion and updating of data on the group of elements.

and In Javautil you will find this



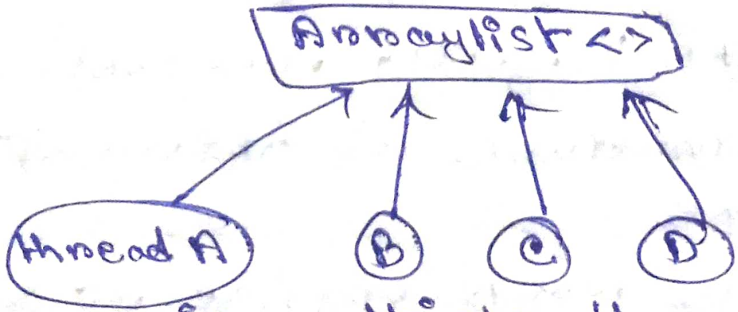


- Collection framework provide us a single interface, or we can say it has set of interfaces
- Array, LinkedList, Stack, Priority Queue Tree Map they have some common sets of methods, that perform some functions, like : .get(), .remove() etc. So the data structure is different but method is same
- Collection frame work provide us a single Interface, which consist of all of

these interfaces and methods.

- In Java.util you will find all of these methods and interfaces
- So, we have collection framework which has collection interface, and all the other interface extends collection interface.

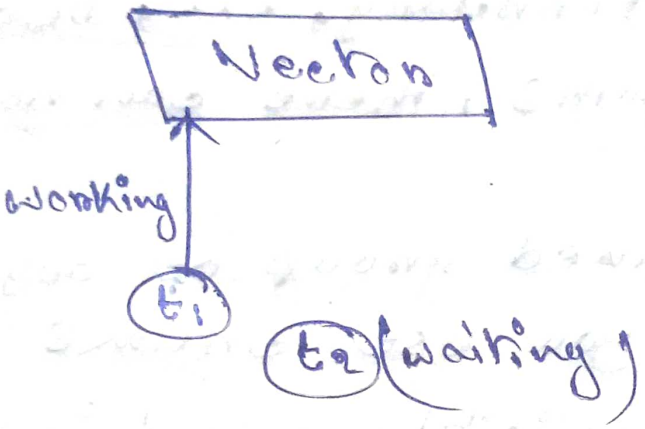
- **Vector class:**
  - The Vector class implements a growable array of objects. Like an array it contains components that can be accessed using an integer index. However, the size of a Vector can grow or shrink as needed to accommodate adding and removing items after the Vector has been created.
  - **Vector Synchronisation:** In arraylist multiple threads can access the same objects, the arraylist is not Synchronized.



So, if there is multiple Thread, like: A, B, C, ...

thread A, B, C, D they all can access the arraylist. object

But in case of vector multiple threads can not access the vector all at the same time. while one thread is working on the object the other threads will be waiting,



■ Enums :

- Enum, introduced in Java 5.
- It is a special data type that consists of a set of pre-defined named values separated by comman.
- These named values are also known as elements or enumerations or enum instances.
- Since the values in the enum type are constant, you should always represent them in UPPERCASE letters.

- Enums are basically group of variable you can not change it's constant
- Also, for a particular class you need a number of particular objects only

for example, 12 months → the particular object exist for months are 12, like: January, February, ..., December. and not 13 moths, there can not be 13 object

- If we have fixed group of objects that's when you use enums
- All the Enum explicitly extend ~~Java.langge~~ Java.lang.enum class
- and we know in Java multiple inheritance is not allowed and a class can extend one parent class in Java, So enum can not extend anything else
- enum can not be a super class method either
- So, we can also implements ~~enum~~ interfaces in enum classes
- enum can implement of many interface

as it want

- Abstract are not allowed in Enum method body is required.