Collections: java.util;

* Growable data in nature.
* Group of individual objects in single entity.

1. List Interface
2. Insertion order is there
3. Duplicates are allowed
4. Null values are allowed
5. add () 🡺 to add data into list
6. get(i) 🡪 to fetch data
7. remove(i) 🡪 to delete data
8. size() 🡪 to get size of arraylist.
9. ArrayList
10. Asynchronous in nature
11. Whenever you have fetch operation you need to use Arraylist, it is a best choice🡪 Random access interface is used internally.
12. Whenever you want to add data in middle or delete in middle you should not use arraylist.
13. By default size/capacity is 10 🡺 load factor = 75% 🡺
14. new capacity = current capacity\*3/2
15. LinkedList
16. Whenever you want to add data or delete data in middle. This is best choice.
17. Fetching data using linkedlist is worst choice.
18. Vector
19. Synchronous in nature
20. Load factor 75% 🡺 new capacity = current capacity\*2
21. Set Interface
22. Null values not allowed
23. Duplicates not allowed
24. HashSet 🡺 internally uses HashMap implementation🡺 hashset values stores in hashmap keys

HashSet<Integer> set = new Hashset<>();

Set.add(1);

Set.add(2);

Set.get(1)

1. LinkedHashSet🡺insertion order 🡺 LinkedHashMap
2. TreeSet 🡺sorting order 🡺 TreeMap
3. Map Interface

Asynchronous in nature

1. HashMap
2. Default size 16.
3. Key value pairs
4. Keys unique and only 1 null value is allowed
5. Values can be duplicated and null values are allowed.
6. Wont be any specific order
7. TreeMap 🡺 Sorting order 🡺 Ascending
8. LinkedHashMap 🡺 Insertion order
9. HashTable 🡺 Synchronous in nature 🡺 null values, keys not allowed
10. Stack 🡺 LIFO 🡺 Last in first out

Push 🡺 adding

Pop 🡺 deleting

1. Queue🡺 FIFO 🡺 First in first out

Map<Integer,String> map = new HashMap<>();

Map.put(1,”ABC”); 🡺 hashcode calculated for key 🡺 1 🡺 hashcode = 12345678 🡺 index = 12345678%16 🡺 0-15 size 🡺 7.

Map.put(2,”XYZ”); 🡺 hashcode calculated for key 🡺 2 🡺 hashcode = 12345679 🡺 index = 12345679%16 🡺 0-15 size 🡺 7.

Map.get(1) 🡺 12345678🡺 12345678%16 🡺 0-15 🡺7 🡺 ABC

Map.get(2) 🡺 12345679🡺 12345679%16 🡺 0-15 🡺7 🡺 XYZ

