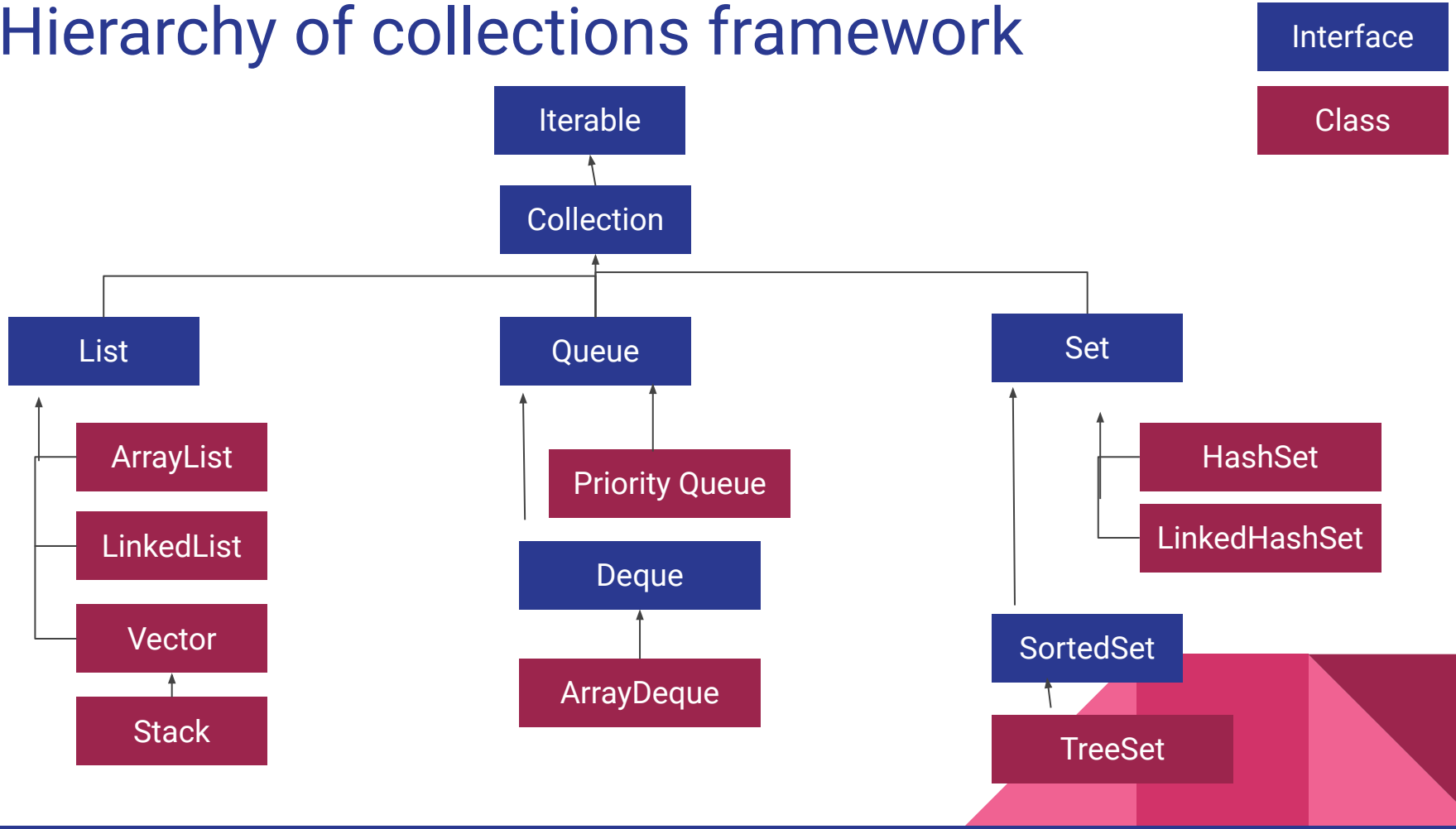
Set & HashSet

Hierarchy of collections framework



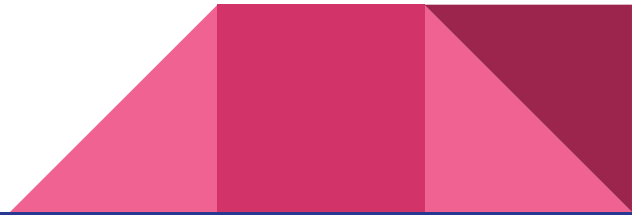
Set

It is a child interface of collection.

Duplicates not allowed.

Insertion order not preserved.

Does not contain any new methods, it inherits methods from collection.



HashSet

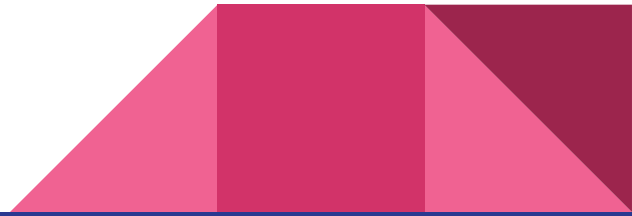
Implements set interface.

Uses hash table.

Duplicates are not allowed, returns false if duplicate is added.

Insertion order isn’t preserved, as objects will be inserted on the basis of hash function.

Search is the most efficient.



Hashing mechanism

3	5	8	1	7	2	6	4

Find 1

	1	2	3	4	5	6	7
0	1	2	3	4	5	6	7

Hashing mechanism

Store 15?

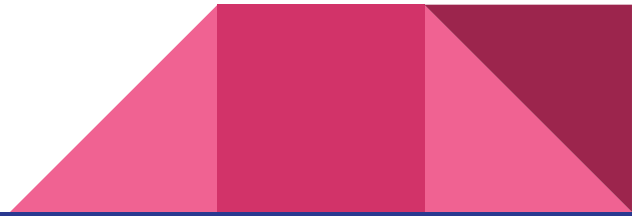
	1	2	3	4	5	6	7
0	1	2	3	4	5	6	7

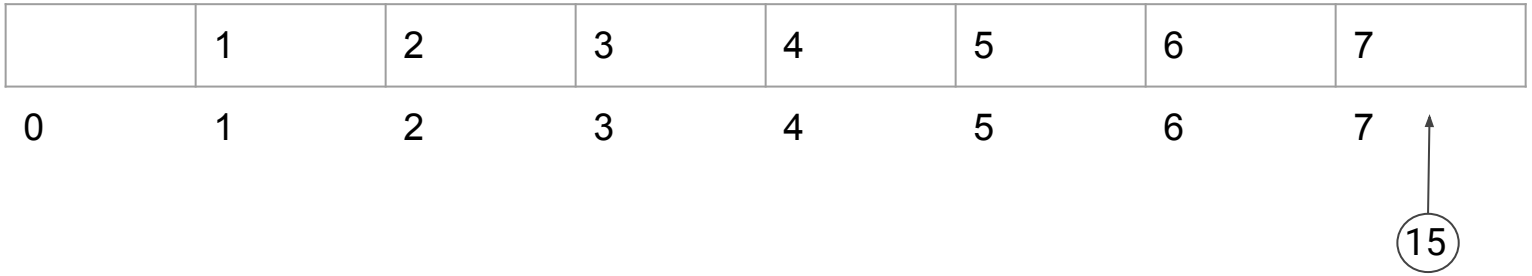
Hash function

Hash function: x%number of buckets i.e 8

Example 15%8 = 7

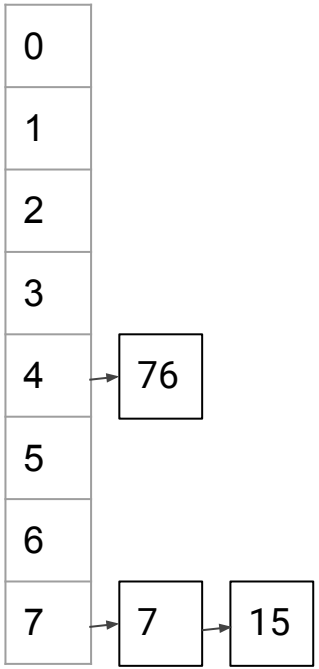
Hence 15 must be stored in index position 7.





Where do we save 15 in such case?

Creating a hash table



New element: 76

76%8 = 4

Creating HashSet

HashSet h = new HashSet(); -> Creates an empty hashset with default capacity.