# Miscellaneous

List	Set	
Insertion Order preserved	Insertion Order Not-preserved	
Allowed Duplicate value	Not-allowed Duplicate value	
Element can be fetch by their position	Element can not be fetch by their position	
Multiple NULL value can be stored	At most one NULL value can be stored .	

PROPERTY	HashSet	LinkedHashSet	TreeSet
Underlying DS	HashTable	HashTable+LinkedList	Balanced Tree
Insertion Order	Not Preserved	Preserved	Not Preserved
Sorting Order	NA	NA	Preserved
Heterogeneous Object	Allowed	Allowed	Not Allowed
Duplicate Object	Not Allowed	Not Allowed	Not Allowed
Null Acceptance	Allowed (1 times)	Allowed (1 times)	For the empty TreeSet add the first element null insertion is possible in all other case it will give NPE

HashMap	HashTable	
No Methods is synchronized	Every Methods is synchronized	
Multiple Thread can operates at the same time & hence HashMap object is not Thread Safe	At a time one three is allowed to operate HashTable . Hence it is Thread Safe	
Thread are not required to wait & hence relatively performance is high	It increase waiting time of the Thread & Hence performance is low.	
Null is allowed for both Key & Value	Null is not allowed for both key & value	
Introduced in 1.2 version & it is non-legacy	Introduced in 1.0 version & it is legacy.	

PROPERTY	yield()	join()	sleep()
Purpose	To pause current executing thread to give the chance for remaining thread of	If a thread want to wait until completing some other thread then we should got for	If a Thread do not want to perform any operation for a particular amount of time
Static	YES	NO	YES
Is it overloaded	NO	YES	YES
Is it final	NO	YES	NO
Is it throw InterruptedException	NO	YES	YES
Is it native Method	YES	NO	sleep( long ms ) -> native sleep( long ms, int nanosecond ) -> No-Native

Wait	Sleep
This method belongs to Object Class	This method belongs to Thread Class
wait() method release the thread lock during Synchronisation	sleep() method does not release the thread lock during Synchronisation
This method only can be called from Synchronisation context	Synchronisation context not required to call sleep() method.
wait() is not static method	sleep() is static method

