**AP-A2**

* **ArrayList vs Vector:**

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| ArrayList contains a static factory that allows arrays to be viewed as lists. | Vectors don’t allow us to see array as lists (but somewhat closer to List). |
| Vectors are synchronized. | ArrayLists are not synchronized. |
| **Whenever needed a Vector defaults to doubling the size of its array.** | **Whenever needed ArrayList increases its array size by 50 percent.** |

* **HashSet vs SortedSet:**

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| HashSet offers constant time performance for the basic operations. | SortedSet is a bit slower than HashSet. |
| It makes no guarantees as to the iteration order of the set; in particular, it does not guarantee that the order will remain constant over time. | It guarantees to keep order constant over time (maintains the order). |
| Implementation is not synchronized. | Implementation is synchronized. |

* **TreeSet vs HashSet:**

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| HashSet allows null. | TreeSet doesn't allow null and throw NullPointerException. |
| HashSet does not maintain any order. | TreeSet maintains sorting order or elements. |
| HashSet is fastest as it does basic operations in constant time. | Tree Set is a bit slower similar to SortedSet. |

* **Array vs List:**

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| In arrays, size is fixed. | Lists are growable and shrinkable. |
| We have to implement utility functions of our own in arrays. | Many utility functions are already implemented and are part of class “List”. |
| Arrays allow sequential as well as direct access. | Lists allow sequential access. |

* **List vs Set:**

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| List is an ordered collection. | Set is an unordered collection. |
| List allows duplicate elements. | Set doesn’t allow duplicate elements. |
| Lists can have multiple nulls at a single instance of time. | Set can have one NULL value at maximum. |

* **NavigableSet vs NavigableMap:**

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| In navigableSet keys are just normal indices. | In NavigableMap, we assign indices ‘Keys’ that act as indices. |
| Duplicate elements are not allowed. | Duplicate elements are allowed but duplicate keys are not allowed. |
| Keys are not objects just their corresponding values are objects. | Both keys and their corresponding values are objects. |