1. How multithreading work in java

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| It works by.   * allowing a program with multiple threads to run on multiple CPUs if they are available at the same time. * using context switching to stop one thread and start another to give the appearance of threads running to the same time. * Java has a memory model which provided guarantees which allow threads to co-ordinate work. |

1. Is it possible to call run () method instead of start () method in java?

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| When we call the **start()** method on a thread it causes the thread to begin execution and **run()** method of a thread is called by the Java Virtual Machine**(JVM)**. If we call directly the **run()** method, it will be treated as a **normal overridden method** of a thread class (or runnable interface) and it will be executed within the context of the current thread, not in a new thread. |

1. What are the difference between two data structures: a Vector and a array list?

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| Array List and Vectors both implement the List interface and both use (dynamically resizable) arrays for their internal data structures. Specifically, **Array List stands as a conventional collection class.** The Vector doubles its size. In contrast, Array List increases only by half of its length. iteration – And Vector can use Iterator and Enumeration to traverse over the elements. On the other hand, Array List can only use Iterator. |

1. What are the difference between collection and collections in java

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| Collection is a interface or framework that is implemented by a class related to collection of elements whereas Collections is a utility class and both are found in Utility package. |

1. In which scenario Linked list is better than array list in java?

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| In case of most frequent data deletion and addition, linked list is used. Array list is most appropriate for data reading purposes |

6. What are the difference between a List and Set Collection in java?

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| A list supports ordered collections and allows duplicates, whereas a set emphasizes uniqueness without any specific order. |

7. What are the difference between a Hash set and Tree Set collection in java

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| Both are member of collection framework. Hash set is implemented by hash map. HashSet is the implementation of the Set interface whereas Tree set implements sorted set. |

8. In java How will you decide when to use a list, set or map

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| To maintain order in group of elements we use List, When we do not want any duplication set interface is appropriate. to keep track of information in the form of key-value pairs, Map is appropriate |

9. What are the difference between a HashMap and Hash Table

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| Hash Map allows null values for key value pairs that not allowed by hash table. Hash map ia faster than hash table because it is not synchronized. |

10. What is the difference between comparable and comparator?

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| Both are interface. However Comparable is used on ordered object while comparator take in to consideration of attribute of an object while implements sorting . |

11. What is join in Database, Explain different type of joining.

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| Joining is a SQL property that used is to query and access data from multiple tables.   * **(INNER) JOIN:** Returns dataset that have matching values in both tables * **LEFT (OUTER) JOIN:** Returns all records from the left table and matched records from the right * **RIGHT (OUTER) JOIN:** Returns all records from the right table and the matched records from the left * **FULL (OUTER) JOIN:** Returns all records when there is a match in either the left table or right table |

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