1. *What is ORM?*

*ORM is the automated persistence of objects to the tables in a relational database.*

1. *What is Hibernate?*

*Hibernate is an open source and light weight java based ORM tool. Hibernate framework simplifies the development of java application that interact with the database by mapping the application domain objects to relational database tables using XML configuration files.*

1. *Why do we need ORM tools like hibernate?*

*The main advantage of hibernate is that it protects developers to write SQL commands, A lot less code to write and it has better performance than JDBC.*

1. *The most common methods of hibernate configuration?*

*Programmatic configuration*

*XML Configuration (hibernate.cfg.xml)*

1. *What are the important tags of hibernate.cfg.xml?*
2. *DTD*
3. *Database Connection Configuration*
4. *Specifies the SQL variant to generate*
5. *Size of Conn pool*
6. *Automatic generation of database schema*
7. *Mapping Files*
8. *What are the core interfaces of hibernate framework?*
9. *Session Factory Interface*
10. *Session Interface*
11. *Transaction Interface*
12. *Query and Criteria Interface*
13. *What is the general flow of Hibernate Communication with RDBMS?*
14. *Load the hibernate configuration file and create configuration object. It will automatically upload all hbm mapping files.*
15. *Create Session Factory from configuration object.*
16. *Get one session from this session factory.*
17. *Create HQL Query*
18. *Execute Query to get list containing Java objects.*
19. *What role does the Session interface play in hibernate?*

*Session is to create, read and delete operations for instances of mapped entity classes. It allows you to create query objects to retrieve persistent objects. It is not thread safe.*

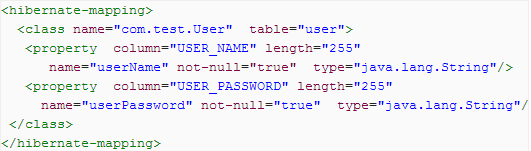
1. *What does SessionFactory interface play in hibernate?*

*The application obtains session instances from a session factory. There is a single session factory for the whole application. It is threadsafe.*

1. *What is HQL?*

*HQL is a mechanism to query, store, update and retrieve objects from a database. It’s is an extension of sql.*

1. *How do you map Java Objects with database tables?*
2. *First we need to write java domain objects(beans with setter and getter)*
3. *Write hbm.xml, where we map java class to table and database columns to java class variables.*

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1. *What is Named – SQL query?*

*Named SQL queries are defined in the mapping XML document and called wherever required.*

1. *Define Hibernate Template?*

*Hibernate Template is a helper class which provides different methods for querying/retrieving data from the database.*

1. *Difference between get( ) and load( )?*

*If you are not sure if some search data is not in the database,*

*Get = will return null.*

*Load = will throw exception.*

1. *What is difference between merge and update?*

*Use update( ) if you are sure that the session does not contain the same ID.*

*Use merge () if you want to merge your modifications without consideration of ID.*

Update():- if you are sure that the session does not contains an already persistent instance with the same identifier, then use update to save the data in hibernate   
  
Merge():-if you want to save your modifications at any time without knowing about the state of an session, then use merge() in hibernate.

1. *Difference between save( ) and update( ) method in hibernate?*

*Save( ) methods generates ID if there is none, otherwise update.*

*Update( ) method update with ID given else it will throw exception.*

1. *What is first level cache?*

*1st level cache is default in session. It tracks persistent objects for updates. It caches only those queries which it needs and not repeat same query.*

1. *What is second level cache?*

*2nd level cache is wider than the 1st level. If you want to make it happen you need to implement different implementations, Ehcache is one of them. It configures in hibernate.cfg.xml and add annotations for entities needing cached.*

1. *What is query cache in hibernate?*

*Similar to 2nd level cache but only for queries.*

1. *Difference between lazy loading vs eager loading?*

*Lazy Loading = loading of classes only when needed.*

*Eager Loading = Loading all related objects.*

1. *What is inheritance strategy in hibernate?*
2. *Table per concrete class*
3. *Table per hierarchy*
4. *Table per subclass*
5. ***What are the ways to express joins in HQL?***

*HQL provides four ways of expressing (inner and outer) joins:-*

* *An implicit association join*
* *An ordinary join in the FROM clause*
* *A fetch join in the FROM clause.*
* *A theta-style join in the WHERE clause.*

*What are different types of fetch?*

*Hibernate uses a fetching strategy to retrieve associated objects if the application needs to navigate the association. Fetch strategies can be declared in the O/R mapping metadata, or over-ridden by a particular HQL or Criteria query.*

There are four fetching strategies

1. fetch-“join” = Disable the lazy loading, always load all the collections and entities.  
2. fetch-“select” (default) = Lazy load all the collections and entities.  
3. batch-size=”N” = Fetching up to ‘N’ collections or entities, \*Not record\*.  
4. fetch-“subselect” = Group its collection into a sub select statement.

*What is the difference between sorted and ordered collection in hibernate?*

*- A sorted collection is sorted by utilizing the sorting features provided by the Java collections framework.  
  
- The sorting occurs in the memory of JVM which running Hibernate, after the data being read from database using java comparator.  
  
- The efficiency depends on the size of the collection.  
  
- Ordered collection is sorted by specifying the order-by clause for sorting this collection when retrieval.  
  
- This is an efficient way to sort larger collections.*