1. How do you design an application with JMS messaging?

We can decouple Component(service) of Application by using JMS,

Benefit=>

-Improve modularity.

-Easy debugging of Services.

-By removing service from core application and connecting using JMS we can decrease load of Main application(improve scalability).

Older Approch:

Main APP => everything running on one server(chances of single failure)

Using JMS ::

| ============(JMS)==========🡺 Email service

Main Application |============(JMS)==========🡺 Text Alert Service

|============(JMS)==========🡺 Account Service

1. How do you handle exception in JMS consumers and how to you recover?

First case:  failover occurs while statements within the transaction are being executed

1. How do you implement LRU or MRU cache?

By Using PriorityQueue which is implemented by Max heap and Min Heap Data Structure.

1. How would you implement Executor Service?

Many type of implementation is possible:

// create only single thread in pool

ExecutorService executorService1 = Executors.newSingleThreadExecutor();

// create 10 Fixed thread in pool

ExecutorService executorService2 = Executors.newFixedThreadPool(10);

// create thread pool which can additionally schedule command after specific delay

ExecutorService executorService3 = Executors.newScheduledThreadPool(10);

1. Describe singleton design pattern – how would you implement?

Very common design pattern : Our goal is to create only one instance of class

By making construction private and creating public method which will return same object across the globe.

1. Describe properties of Java String.

Java String is Immutable. JVM store Java String in String Pool.

Operation on String is Heavy => “abc”+”xyz” => [a][b][c] ,[x][y][z] => [][][][][][] (6) => [a][b][c][d][e][f]

Convert to char array => create another array with total length => then add it to that array.

The complexity of operation can be more then => n+n=2n

To improve we use StringBuilder which is slightly efficient.