

## Attempt Any 1

1. Create two thread. one thread is finding the average of the first 10 numbers and another thread is printing the square of the number stored in array `arr={1,20,50,15,30}` and make sure both threads can execute one by one.

2. Create Restaurant class where there will be 3 thread names: customer, cook and waiter. Demonstrate inter thread communication.

[**Hint:** Create three synchronized methods name:

1. `foodOrder(String orderName)`: will receive the order.

2. `cookedOrder(String orderName)`: will print chef has received the order, The cooking is under process.

3. `recivedOrder(String orderName)`: will print the customer received the order.

Create one order and call 3 threads named "customer" which will call `recivedOrder()` method, "Waiter" which will call `foodOrder()` method and cook which will call `cookedOrder()` method and start all the thread.

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(Attempt any 2)

1. Write a Java program to associate the specified value with the specified key in a HashMap. [Hint: Create HashMap and store few elements on it]

2. Write a Java program to check whether a HashMap contains key-value mappings (empty) or not. [Hint: Use isEmpty() method to check the map is empty or not]

3. write a program in Java to create a Map Interface where we can store the cricketer name in it along with his scores and search for the batsman name and display his score. [Hint: use containsKey() method to search batsman name]

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(Attempt any 2)

1. Write a Java program to append the specified element to the end of a HashSet. [Hint: Add elements in the Set using add() method]

2. Write a program to declare stack. Store 10 elements into it. Remove 4 elements from stack and display it.

3. Write a Java program that finds and prints the union of two sets. Then check if union set is a subset of set1 or not. [Hint: Create two Set objects name set1 and set 2 and copy both Set's elements into an another Set name unionSet. Utilize the containsAll() method to verify if the elements from set1 are present within the unionSet]

Set 1 Input:

apple

banana

cherry

Set 2 Input:

cherry

date

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(Attempt any 2)

1. Create a Book class with bookId, bookName and authorName. Create parameterized constructor to initialize the object. Create an ArrayList of type Book and store all book objects into collections and display all book details. [Hint: Use advanced for loop to display all Books details]

2. Write a program to reverse a given List of strings.

String : {apple, banana, cherry, date}  
output : {date, cherry, banana, apple}

3. Write a Java program that calculates the sum

of all even numbers present in an ArrayList of integers. Sample Input: 2 5 8 10 15

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1. Create a program with a logic that throws the `ArrayIndexOutOfBoundsException` while accessing elements in an array.[Hint: Use array and loop and try to access the element beyond the last index]