**1- Write a Java program to implement a lambda expression to convert a list of strings to uppercase and lowercase**

import java.util.\*;

interface Upper\_Lower

{

public void upper\_lower(String s);

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter string input: ");

String str=sc.next();

Upper\_Lower ul=(String s)->

{

System.out.println("String in Upper Case is : "+ s.toUpperCase());

System.out.println("String in Lower Case is : "+ s.toLowerCase());

};

ul.upper\_lower(str);

}

}

**2- Write a Java program to implement a lambda expression to filter out even and odd numbers from a list of integers.**

import java.util.\*;

interface Even\_Odd

{

public void even\_odd(int[] list);

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter number of elements in list: ");

Integer n=sc.nextInt();

int[] list=new int[n];

for(int i=0;i<n;i++)

{

list[i]=sc.nextInt();

}

List<Integer> even=new ArrayList<Integer>();

List<Integer> odd=new ArrayList<Integer>();

Even\_Odd eo=(int[] arr)->

{

for(int i=0;i<arr.length;i++)

{

if(arr[i]%2==0)

{

even.add(arr[i]);

}

if(arr[i]%2!=0)

{

odd.add(arr[i]);

}

}

System.out.println("Even numbers from list: "+ even);

System.out.println("Odd number form list : "+ odd);

};

eo.even\_odd(list);

}

}

**3- Write a Java program to implement a lambda expression to remove duplicates from a list of integers.**

import java.util.\*;

interface Duplicates

{

public void remove\_duplicates(int[] arr);

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter number of elements in list: ");

Integer n=sc.nextInt();

int[] list=new int[n];

for(int i=0;i<n;i++)

{

list[i]=sc.nextInt();

}

HashMap<Integer,Integer> hm=new HashMap<>();

List<Integer>result=new ArrayList<>();

Duplicates dl=(int[] arr)->

{

for(int i=0;i<arr.length;i++)

{

if(!hm.containsKey(arr[i]))

{

hm.put(arr[i],1);

result.add(arr[i]);

}

}

System.out.println("List after removing duplicates "+ result);

};

dl.remove\_duplicates(list);

}

}

**4- Write a lambda expression to implement a lambda expression to calculate the factorial of a given number.**

import java.util.\*;

interface Factorial

{

public void factorial(long n);

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

long n=sc.nextLong();

Factorial f=(long m)->

{

long fact=1;

for(long i=m;i>1;i--)

{

fact=fact\*i;

}

System.out.println("Factorial of "+n+" is: "+ fact);

};

f.factorial(n);

}}

**5- Write a Java program to implement a lambda expression to check if a given number is a perfect square.**

import java.util.\*;

interface PerfectSq

{

public void perfectSq(int n);

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter number: ");

int n=sc.nextInt();

PerfectSq psq=(int m)->

{

if((Math.sqrt(m))-(Math.floor(Math.sqrt(m)))==0)

{

System.out.println("The number is a perfect Square");

}

else

{

System.out.println("The number is not a perfect Square");

}

};

psq.perfectSq(n);

}

}

**6- Write a Java program to implement a lambda expression to find the second largest and smallest element in an array.**

import java.util.\*;

interface SmallLarge

{

public void smalllarge(int[] arr);

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter number of elements in list: ");

Integer n=sc.nextInt();

int[] list=new int[n];

for(int i=0;i<n;i++)

{

list[i]=sc.nextInt();

}

SmallLarge sl=(int[] arr)->

{

Arrays.sort(list);

System.out.println("Second Largest element is "+ list[1]);

System.out.println("Second Smallest element is "+ list[list.length-2]);

};

sl.smalllarge(list);

}

}