**Assignment**

1. Declare suitable collection at the position //insert code here

Import java.util.LinkedList;

class CollectionTypes {

public static void main(String[ ] args) {

// insert code here

Queue<String> X=new LinkedList<>();

x.add(“one”);

x.add(“two”);

x.add(“one”);

System.out.println(x.poll()); }

1. What is the result of compiling and running the following program?

public class Tester {

public static void main(String[] args) {

List list1 = new ArrayList(); //line 1

List<Object> list2 = list1; //line2

list2.add(new Integer(12)); //line 3

System.out.println(list2.size());//line 4 } }

Compilation Error in line 2

1. What is the result of compiling and running the following program?

import java.util.\*;

public class TestGenericConversion {

public static void main(String s[ ]){

List list=new ArrayList( );

list.add("one");

list.add(2);

System.out.println(list.get(0).length(); } } }

Compilation Error Integer is not compatible for type String

1. What is the result of compiling and running the following program?

public class Test {

public static void main(String[] args){

Integer a = new Integer(4);

Integer b = new Integer(8);

Integer c = new Integer(4);

HashSet hs = new HashSet();

hs.add(a);

hs.add(b);

hs.add(c);

System.out.println(hs); } }

Output:- [4,8]

1. Create a class with a method which can remove all the elements from a list other than the collection of elements specified.

import java.util.List;

import java.util.ArrayList;

public class ListManager{

    public static List removeElement(List list1, List list2) {

        list1.retainAll(list2);

        return list1;

    }

    public static void main(String[] args) {

        List<String> list1=new ArrayList<>();

        list1.add("Hadoop");

        list1.add("Scala");

        list1.add("Machine Learning");

        list1.add("AI");

        list1.add("UI design");

        list1.add("Java");

        List<String> list2=new ArrayList<>();

        list2.add("Java");

        list2.add("AI");

        list2.add("UI design");

        list2.add("Scala");

        list1=removeElement(list1,list2);

        System.out.println("After removal: "+ list1);

    }

}

Output: After removal: [Scala, AI, UI design, Java]

1. Create a class that can accept an array of String objects and return them as a sorted List.

import java.util.List;

import java.util.ArrayList;

import java.util.Collections;

public class ListManager{

    public static List getArrayList(String[] arr) {

        List<String> lst=new ArrayList<>();

        for(int i=0;i<arr.length;i++)

        {

            lst.add(arr[i]);

        }

        Collections.sort(lst);

        return lst;

    }

    public static void main(String[] args) {

        String [] str= {"Java","Scala","Python","Ai","Ruby","Perl","Hadoop"};

        List list1=getArrayList(str);

        System.out.println(list1);

    }

}

Output:- [Ai, Hadoop, Java, Perl, Python, Ruby, Scala]

1. Create a method that returns collection that contain only unique String object in the sorted order.

import java.util.Set;

import java.util.TreeSet;

public class UniqueCollection {

    public static Set getCollection(String[] arr)

    {

        TreeSet str= new TreeSet();

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

        {

            str.add(arr[i]);

        }

        return str;

    }

    public static void main(String[] args) {

        String[] arr= {"Jan","Feb","Mar","Apr","May","Jun","Jul","Aug","Sep","Oct","Nov","Dec"};

        Set st=getCollection(arr);

        System.out.println(st);

    }

}

1. Create a class which accepts a HashMap and returns the keys in the Map.

import java.util.Map;

import java.util.HashMap;

import java.util.Set;

import java.util.HashSet;

public class MapManager {

    public static Set getKeys(Map<String, Integer> hmap)

    {

        HashSet hset=new HashSet();

         for(String key:hmap.keySet())

        {

            hset.add(key);

        }

        return hset;

    }

    public static void main(String[] args) {

        HashMap hmap=new HashMap();

        hmap.put("Jan",1);

        hmap.put("Feb",2);

        hmap.put("Mar",3);

        hmap.put("Apr",4);

        hmap.put("May",5);

        Set st=getKeys(hmap);

        System.out.println(st);

    }

}