**Assignment for Collections:**

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

Import java.util.LinkedList;

class CollectionTypes {

public static void main(String[ ] args) {

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

x.add(“one”);

x.add(“two”);

x.add(“one”);

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

}

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

public class Tester {

public static void main(String[] args) {

List list1 = new ArrayList();

List<Object> list2 = list1;

list2.add(new Integer(12));

System.out.println(list2.size());} }

O/P:- Compilation Error in line 2

3. 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();

}

}

}

O/P:- Compilation Error- Integer is not compatible for type String

4. What is the result of compiling and running the following progra

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); } }

O/P:- 4,8

5.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);

}

}

**O/P: After removal: [Scala, AI, UI design, Java]**

6. 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);

}

}

**O/P:- [Ai, Hadoop, Java, Perl, Python, Ruby, Scala]**

**7. 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);

}

}

8. 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);

}

}