Java Collections

Exercise

The documents details two flavors of problem statements

 Statement # 1: Few problem solutions have been provided for associates should analyze the

program and write down the program output. This will enhance the analyzing skills of associates

and also understand “why” part of java programming feature. The associates can then try

running the program in eclipse and check if the output with what they have written.

 Stamen # 2: There are some problem statements provided similar to the final assessment and

associates need to solve it. This will enhance the programming skills of the associates.

IMPORTANT: These exercises will gear you up for the core java assessment so please

develop/analyze the exercise independently. In case you are stuck up reach out to the trainers.

Exercises:

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

class CollectionTypes {

public static void main(String[ ] args) {

// insert code here

x.add(“one”);

x.add(“two”);

x.add(“one”);

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

}

}

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

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

public class Tester {

public static void main(String[] args) {

List<String> list1 = new ArrayList<String>();//line 1

List<Object> list2 = list1;//line 2

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

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

}

}

import java.util.\*;

public class TestGenericConversion {

public static void main(String s[ ]){

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

list.add("one");

list.add(2);

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

} }

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4. What is the result of attempting to compile and run the following code?

5. Create a class with a method which can remove all the elements from a list other than the

collection of elements specified.

Class Name ListManager

Method Name removeElements

Method Description Remove all the elements from a list other than the

collection of elements specified.

Argument List<String> list1, List<String> list2;

Return Type List- ArrayList contains the resulting List after the

removal process.

Logic Accept two List objects list1 and list2 and remove

all the elements from list 1 other than the elements

contained in list2.This should be done in single step

process without using loop.

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

Class Name ListManager

Method Name getArrayList

Method Description Converts the String array to ArrayList and sorts it

Argument String []elements

Return Type List- ArrayList containing the elements of the

String array in sorted order

Logic Load the elements in to an ArrayList and sort it.

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);

}

}

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

Class Name UniqueCollection

Method Name getCollection

Method Description Accepts a String array and load the elements into a

collection that can hold only unique element in a

sorted order.

Argument String []elements

Return Type Interface type of the Collection used

Logic Accept a String array, convert it to a collection of

unique elements stored in sorted order and return

the results.

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

Class Name MapManager

Method Name getKeys

Method Description Returns the keys in the hasp map

Argument HashMap

Return Type Set

Logic Retrieve the keys in hash map and return the set of

keys

9. Create a method that returns the current date in the format specified

Class Name DataGenerator

Method Name getDate

Method Description Returns the current date

Argument String format

Return Type String date

Logic Return the current date in the specified format

10. Create a method that calculates the age of a person based on his date of birth

Class Name AgeCalculator

Method Name calculateAge

Method Description Returns the age of the person

Argument String dob,String format

Return Type int age

Logic Returns the age of the person based on his date of

birth