

-----PROBLEM STATEMENTS ON COLLECTIONS-----

-----

-----\*\*\*\*\*-----

-----

1.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.

-----

2. 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.

-----

3. 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.

-----

4. 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

---

5. 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

---

6. 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

---

7. Government has announced a rule stating that all the citizens who are 18 years and above( $\geq 18$ ) are eligible to get a voter's card.The details of the residents and their date of births are stored in a hash map. Write a method which accepts the residents details as Hashmap and return the names of the people eligible for the voter's card as an arraylist.  
The date of birth is stored in dd/MM/yyyy format.

Input Specification:  
Input1: HashMap<string,string>  
Output: ArrayList<string>

Input2: {'aruna': '12/04/1998','lata':'24/03/1987'}  
Output:[arun,lata]</string></string,string>

---

8. Given a string array as input.The array contains the states and capital names separated by a '\_'.Write a method which accepts the string array and

a state name and return the capital of the state.  
Note: the check must be case insensitive.

Input1: {'TN\_Chennai', 'Kerala\_TVM', 'Karnataka\_BNGLR'}  
Input2: Karnataka  
Output: BNGLR

-----  
9. Given an arraylist of strings, write a method to return the string formed by the last character of each string.

Input:  
['ab', 'a', 'abcd']

Output:  
['car', 'java', 'mat']

-----  
10. Given a 'n' digit number. Write a program to find a number formed by the difference of consecutive digits. Last digit can be left as it is.

Input: 21457  
Output: 13127

Input2: 578461  
Output2: 214251