

Name : Anupam Kunwar
Reg : 19BCE1369
Faculty : J.V Thomas Abraham

CSE1007 Lab Fat (L3-L4)

Q1.

Write a program to create two Name arrays in ArrayLists and uses an Iterator to count common elements in the first and second ArrayLists.

Solution :

```
import java.util.ArrayList;
import java.util.Iterator;
import java.util.Scanner;

public class Q1 {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int counter = 0;
        String s;
        ArrayList<String> name1 = new ArrayList<String>();
        System.out.println("Enter list 1 items : ");
        for(int i = 0;i<4;i++){
            s = in.next();
            name1.add(s);
        }

        System.out.println("First Name Array : " + name1);
        ArrayList<String> name2 = new ArrayList<String>();
        System.out.println("Enter list 2 items : ");
        for(int i = 0;i<4;i++){
            s = in.next();
            name2.add(s);
        }
        System.out.println("Second Name Array : " + name2);
        name1.retainAll(name2); //Putting common elements in both array lists in name1
        Iterator<String> itr = name1.iterator();
        while(itr.hasNext()){
            itr.next();
            counter++;
        }
        System.out.println("The number of common elements in both array lists is "+counter);
    }
}
```

Output :

1.

```
anupamkunwar@fedora:~/Documents/javab/FAT
[anupamkunwar@fedora FAT]$ javac Q1.java
j[anupamkunwar@fedora FAT]$ java Q1
Enter list 1 items :
Anupam
Archna
Mohit
Rahul
First Name Array : [Anupam, Archna, Mohit, Rahul]
Enter list 2 items :
Sanjeev
Mohit
Vinod
Kumar
Second Name Array : [Sanjeev, Mohit, Vinod, Kumar]
The number of common elements in both array lists is 1
[anupamkunwar@fedora FAT]$
```

2.

```
anupamkunwar@fedora:~/Documents/javab/FAT
[anupamkunwar@fedora FAT]$ java Q1
Enter list 1 items :
Kunal
Anant
Abhishek
Arvind
First Name Array : [Kunal, Anant, Abhishek, Arvind]
Enter list 2 items :
Arvind
Abhishek
Aviral
Kashish
Second Name Array : [Arvind, Abhishek, Aviral, Kashish]
The number of common elements in both array lists is 2
[anupamkunwar@fedora FAT]$
```

Q2.

Write a program to read in the child particulars like child name, date of birth (dd/mm/yyyy format) for a school admission. Your program should throw an exception if the age of the child is not more than 4 years.

Solution :

```
import java.util.Scanner;

class AgeException extends Exception{
    AgeException(String s){
        super(s);
    }
}

public class Q2{

    static void validate(int i) throws AgeException{
        if(i<4){
            throw new AgeException("Age not above 4 years!!");
        }
        else{
            System.out.println("Age Valid");
        }
    }

    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        System.out.println("Enter Child's Name : ");
        String name = in.next();
        System.out.println("Enter Child's date-of-birth in DD/MM/YYYY : ");
        String dob = in.next();
        int y = Integer.parseInt(dob.substring(6));
        int age = 2021 - y;
        System.out.println("Age of "+name+" is "+age);
        System.out.print("Result = ");
        try{
            validate(age);
        }
        catch(Exception e){
            System.out.println("Exception occurred : "+e);
        }
    }
}
```

Output :

1. Age below 4 years

```
anupamkunwar@fedora:~/Documents/javab/FAT
[anupamkunwar@fedora FAT]$ javac Q2.java
[anupamkunwar@fedora FAT]$ java Q2
Enter Child's Name :
Rahul
Enter Child's date-of-birth in DD/MM/YYYY :
01/09/2020
Age of Rahul is 1
Result = Exception occured : AgeException: Age not above 4 years!!
[anupamkunwar@fedora FAT]$
```

2. Age above 4 years

```
anupamkunwar@fedora:~/Documents/javab/FAT
[anupamkunwar@fedora FAT]$ javac Q2.java
[anupamkunwar@fedora FAT]$ java Q2
Enter Child's Name :
Anupam
Enter Child's date-of-birth in DD/MM/YYYY :
01/12/2000
Age of Anupam is 21
Result = Age Valid
[anupamkunwar@fedora FAT]$
```