Rollcall

First three lines are importing. Scanner for get input , Arraylist for use the Arraylists in the program and Collection package for use inbuilt method such as sort a list..

Next define the class rollcall. **public** is an access modifier. Public class can access by anywhere. **Class** keyword is todefine the class and rollcall is the class name.

Inside the class there is a static method. The name of the method is instances. It is defined as a static method. Therefor no need to create an instance of the rollcall to call that method. This method takes two arguments. First argument is the nums. Nums is an ArrayList that consist of Strings. The second argument is a str. It is a String. (line 6)

Next integer type variable count is declared and initialized it to 0. (line 8)

Next there is a for loop. It is looping from I = 0 to I = size of the nums ArryaList. Increment done by 1 for each round (i++)

nums.size() is a method to get the size of a arraylist.

Inside the for loop there is a if statement. (line 11).

In that we checking our second argument (str) is exactly matching with the current string that get from the nums arraylist.nums.get(i) is an method to to get the value of the ith  index of the nums arraylist.and equals is method to check whether if two string are same.( str.equals(…))

In here if the str and the current word that comes from the loop in ith round from nums are equals increase the count by one. (line12)

Then return the count as the result of that method.

Overall idea of that method is :

Het arralist and a string. And count the matching of strin in that given arralist and return it.

Line 16

Define the main method(This also should be a static and public).

Line 17:- Create an object from the Scanner Class which previously imported from line 1.The name of the object is scan. In here new is the keyword that use to create the object.Scanner(Syste.in) is the constructor of the Scanner class. System.in is a method to get the input from the system using system calls.

Line 19,20

Create String type arraylist. The names are “names” and “fisrts”. In here new is also same as the above. It is used to create objects of ArrayList() class.

Line 22 – line 29

There is while loop. The loop runs until End Of File or end of line found. Scan.hasnext is the method to check whether input have next input or is it the end of the input. If there are inputs loop is runs.

Line 24. Line 25.

Strings are declared which the names are first and last. In here scan object read the string from the System and assign into that variables. Scan.next() read until it founds a whitespace.

For example : input = Shenal perera

Then the first = Shenal and last = perera

Line 27

Next add that value in the first varable into the firsts arraylist which defined in the line 20.

Line 28

In here last nae and firstname are concatenated with a space.

last + “ “ + first is equal to “perera Shenal”

And that name is added to the names arralist which defined in the line 19.

Line 31.

Then that names arralist is sorted using Collection class.

Line 33 –

It start a while loop. Loop is run until the size of the ArrayList names is not equal to zero. If the there is no more name in the ArrayList when the loop Is terminated.

Line 35.

Declare a String first. Then get and remove the first element (name) in the names ArrayList. [Remember now this names arraylist contain full name : ”Messi Lionel”, “perera Shenal”, …]

Names.get(0) gives the first name currently in names Arraylist. Then it is break in to piece and get relevant name using substring.

Example:

Name = “Messi Lionel”

Then names.het(0).substring(names.get(0)indexOf(“ “) +1) gives the “Lionel” and that is assigned to the first.

Then last is declared. Same as the above. But here substring is happen from 0 index to index of the “ “

names.get(0).substring(0, names.get(0).indexOf(" ")) gives the “Messi” and that is assigned to the variable last.

Then that name in the names arrayist is removed. (line 37)

Line 39-44

Using instances method check the count of the first names is more than one. It means there are people has sam first names. Therefore I this case prnt fist name with the last name. If not print only the first name

Then close the scanner line 45

imagedecoding

line 1- 3 :- import the libraries

line 3 – import the math package

line 5:- define the class imagedecoding as public.

Line 6:- Define the main method

Line 7: BufferedReader class is used to read the text from a character-based input stream. It creates an InputStreamReader that uses the default charset. That InputStreamReader is make an stream of thr data using the system input. That input stream is passed to the Buffer reader

Line 8: PrintWriter class It is used to print the formatted representation of objects to the text-output stream. That writer require a BufferWritter. That data is written to the BufferWriter.That data in the BufferWriter is out as an Ooutputstream to the system.

Line 10

Declare an integer varable count and initialized it to 1

Line 11 – 40 while loop. true keyword is to run the loop infinitely.

Line 12: read the string from the current line and parse that string into the integer value.

Input = “10”

Int n = Integer.parseInt(in.readLine());

Then n = 10 (integer value)

Line 13: check the read integer is 0. If n is zero then break the while loop and exits from the loop.

Line 14: check the count is not eaqul to 1. If the count is not equal to just print a new line (out.println())

Line 15: Declare an integer varable length and initialized it to 0

Line 16: Declare a Boolean (true/false-1/0) variable error and set it to false(0)

Then start a for loop. That loop is looping i=0 to i=n.For example the value that read from the line 12 is 10 this loop is go 0,1,2,3,4,5,6,7,8,9.

Line18: Declare a array of strings.The name of that array is input . in.readLine().split(" "); is a method to split the current read line data. This read the data from the current line as a string. Then that string is split from the spaces and that words are save to input array

Line 19: Get the first string from the input array(input[0]) and check that is equal to #. Equals returns an Boolean. If the first elemnt in the input array is equal to # the hsah variable is set to true otherwise false;

Line 20: Create integer variable tempLength and set I to 0;

Line 21:

Create a loop. This is run from j = 1 to j = size of the input array.

Line 22: each round of the for loop the jth index of the input array is assigned to the reps using parseInt method. Reason for that is input array contains strings. Therefore we need to cast it to integer.

Line23: Check I in the first loop is zero. ( first round of the outer loop) if yes then added the value in the reps variable into the current length variable value and set new length value as previous length + reps

Line 24: Then check hash is true. If it is true then print # symbols in same line reps times.

Then set hash to false

Line 26-31 If this not happen print dots reps times and set hash to true

Line 32: added reps to the current tempLneth

Line 34: check I is not zero(not the first loop) and same time tempLneth and length os not same. I f yes then set error to true

Line 35: set tempLength to 0

Line 36: print a new line

Line 38: check whether there is error is true. If yes output the message

And increment count by 1;

After that close the printwriter