# Objective

In this assignment you will be using array and the Scanner class. Before doing the assignment make sure to go over the module for the week

# Problem

Write a program that reads in ten numbers from the user and displays the distinct numbers. If a number entered by the user appears multiple times, your program needs to filter the repeated numbers and therefore displaying the repeated numbers only once. For example, if the user enters the number 1, 4, 6, 1, 8, 4, 2, 1, 3,9 then the output of your program should be: 1, 4, 6, 8, 2, 3, 9.

### What to turn in

You need to submit a .java file. before submitting your work

* make sure that your works satisfies the criteria listed in the given rubric.
* Make sure that your program generates the given sample output

## Requirements

* The solution for the assignment must contain multiple methods. A program that has only the main method will only get partial credit. A list of the methods and their functionality is provided. Make sure to implement all the methods.
* No global variables can be declared. Global variables are the one that are declared outside of all the methods.
* **You can use the provided program shell or you can create your own program from the scratch. Remember that you must include multiple methods in your solution.**
* Must provide comments throughout your code
* Must have proper indentation throughout the code
* Must follow the naming convention learned in the previous Java course

## Java Packages

You need to import the Java util package since you will be using the Scanner class.

# Methods

The following methods should be implemented in the given order.

### public static Boolean found(int[] num, int n)

This method accepts an integer number called n and an array of integer values as its parameters. This method scans through the array. If the content of the variable n is found in the array, the method returns true, otherwise it returns false. You need to have a for loop to step through the array

### Public static int[] getInput():

This method reads the user’s input and stores them in an array and returns the array at the end. This method must do the following in the given order

* Declare an array of integers with the size 10
* Create a Scanner object
* Declare an integer variable to hold the user’s input
* Create a for loop and in the for loop do the followings: (for loop goes from 0 to one less than the size of the array
* **Begin for loop**
* Prompt the user to enter an integer number
* Declare a Boolean variable, this is needed in order to call the method found
* Call the method found by passing the array and the user’s input to it. This method call will return a boolean and the return value needs to be stored in the boolean variable you just declared.
* If the content of the Boolean variable is true, it means the number entered by the user is already in the array therefore the loop control variable must be decremented. If the content of the Boolean variable is false, the user’s input must be stored in the array.
* **End for loop**
* return the array that you just filled in with the user’s data**.**

### public static void display(int[] num)

This method get array of integers, uses a for loop to display the content of the array in the given format. Refer to the sample output. Need to use a for loop in this method that goes from 0 to num.length -1.

### public static void main(string[] args)

This method does the following

* declare an array of integers with size 10
* call the method getInput, this method call will return an array that you need to store it in the array you just declared here.
* call the method display and pass the array of numbers to it.

# Sample output

Welcome to the distinct numbers.

I will remove the repeated numbers and display the numbers you just entered

Enter a number: 12

Enter a number: 45

Enter a number: 56

Enter a number: 77

Enter a number: 12

Enter a number: 34

Enter a number: 77

Enter a number: 88

Enter a number: 99

Enter a number: 11

Enter a number: 45

Enter a number: 66

Enter a number: 3

I filtered out all the repeated numbers you entered and kept only one copy of each number

Here is the list of your numbers

{12, 45, 56, 77, 34, 88, 99, 11, 66, 3}