# 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 keeps reading in numbers from the user until the user enters ten distinct numbers and displays the distinct numbers on the screen. Your program must filter out all the repeated numbers and keep only one copy of it. For example, if the user enters the numbers 1, 4, 6, 1, 6, 4, 2, 1, 3,9, 6, 17, 2, 11, 45, 10 then the output of your program should be:

1, 4, 6, 2, 3, 9, 17, 11, 45, 10

Note that your program must keep looping until 10 distinct numbers has been entered.

### What to turn in

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

* make sure that your work satisfies the criteria listed in the given rubric.
* Make sure that your program generates the given sample output
* Make sure that you have signed the testimony by printing your name
* Make sure to write enough comments throughout your program

## 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 isDistinct(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(int[] numbers):

This method reads the user’s input and stores them in the array called numbers. This method return the total numbers entered by the user including the repeated ones.

* Create a Scanner object
* Declare an integer variable to hold the user’s input
* Declare an integer variable (counter) to keep track of the total number of the numbers the user entered.
* 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
* Increment the counter by 1
* 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 returned 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 counter varibale

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

This method get array of integers and the total numbers of the numbers user entered. Use 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. Do not use any pre-written method that is in java

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

This method does the following

* Declare an array of integers with size 10
* Declare an integer variable called counter
* Call the method getInput and pass the array you declared to it. Method getInput returns an Integer indicating the total number of the numbers that the user entered. Make sure to store the return value in the counter variable
* Call the method display and pass the array of numbers and the counter to it to display the desired result on the screen.

# Sample output

Welcome to the distinct numbers.

I will remove the repeated numbers and display the distinct numbers you entered. As long as you have not entered 10 distinct numbers I will keep prompting you to enter a number

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

You entered 13 numbers total, I filtered out all the repeated numbers.

Here is the list of distinct numbers you entered.

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