# Binary Search Algorithm

```
import java.util.Scanner;
public class BinarySearch {

        public static void main(String[] args) {
                // TODO Auto-generated method stub
                 int counter, num, item, array[], first, last, middle;
            //To capture user input
            Scanner input = new Scanner(System.in);
            System.out.println("Enter number of elements:");
            num = input.nextInt();

            //Creating array to store the all the numbers
            array = new int[num];

            System.out.println("Enter " + num + " integers");
            //Loop to store each numbers in array
            for (counter = 0; counter < num; counter++)
               array[counter] = input.nextInt();
```

```
//Bubble sort to arrange the numbers in ascending order
int temp = 0;
  for(int i=0; i < num; i++){
        for(int j=1; j < (num-i); j++)
        {
              if(array[j-1] > array[j]){
                    //swap elements
                    temp = array[j-1];
                    array[j-1] = array[j];
                    array[j] = temp;
              }

        }
  }

//Print the sorted ARRAY
  for (counter = 0; counter < num; counter++)
     System.out.print(array[counter] + " ");
  System.out.println();
```

```
        //Binary Search Code
        System.out.println("Enter the search value:");
        item = input.nextInt();
        first = 0;
        last = num - 1;
        middle = (first + last)/2;



        while( first <= last )
        {
            //Write the Logic to find the Number using Binary Search


        }
        if ( first > last )
          System.out.println(item + " is not found.\n");
    }

}
```