```
package javaaddressbook;

import java.util.ArrayList;
import static java.lang.System.exit;
import java.util.Collections;
import java.util.Comparator;
import java.util.List;
import java.util.Scanner;
class addressbook{
     String name;
     String phone;
     public addressbook(String name,String phone)
     {
         this.name=name;
         this.phone=phone;
     }
     public  String toString()
     {
       System.out.println("Name:"+name+"     phone number:"+phone);
         return name;

     }

}
class Sortbyname implements Comparator<addressbook>
{
    public int compare(addressbook a,addressbook b)
    {

        return(a.name.compareTo(b.name));

    }
}

class Sortbynumber implements Comparator<addressbook>
{
    public int compare(addressbook a,addressbook b)
    {

        return(a.phone.compareTo(b.phone));

    }
}



public class Javaaddressbook {


    public static void main(String[] args) {
        Sortbyname comp=new Sortbyname();
        Sortbynumber num=new Sortbynumber();
        int n,m;
        List<addressbook> a1=new ArrayList<>();
        Scanner a2=new Scanner(System.in);
        a1.add(new addressbook("saya","8795623141"));
        a1.add(new addressbook("rahi","6789152431"));
        a1.add(new addressbook("joya","8796278680"));
```

```
        a1.add(new addressbook("aaditya","8892637899"));
        a1.add(new addressbook("arjun","8795725787"));
        System.out.println("" +a1);
      for(;;)
      {
          System.out.println("1.Add 2.Delete 3.search 4.update 5.sort
6.display 7.exit");
          System.out.println("Enter the option:");
          int inp=a2.nextInt();
      switch(inp)
      {
      case 1:
                System.out.println("Enter the name nd phone number:");
                String name=a2.next();
                String phonenumber=a2.next();
                a1.add(new addressbook(name,phonenumber));
                System.out.println("" +a1);
                break;
      case 2:

                System.out.println("Enter the element position that to be
deleted:");
                n=a2.nextInt();
                a1.remove(n);
        //List after removal of element
                System.out.println("list after removal:" +a1);
                break;
      case 3:
                 System.out.println("Enter the element position that to be
searched:");
                 m=a2.nextInt();
                 System.out.println(a1.get(m));
                 break;
      case 4:
                System.out.println("Enter the name nd phone number:");
                String nm=a2.next();
                String pn=a2.next();
                System.out.println("Enter the position:");
                int p=a2.nextInt();
                 a1.set(p,new addressbook(nm,pn));
                 System.out.println("list after updation:" +a1);
                 break;
      case 5:
                 Collections.sort(a1,comp);
                 System.out.println("\nElements after sorting by name
:"+a1);

                 break;


      case 6:
                 System.out.println("\nElements in array  :"+a1);
                 break;
      case 7:
                 exit(0);

     }
    }
```

```
}

        }
```