package com.exercise.eclipse.ide.first;

import java.util.ArrayList;

import java.util.Scanner;

import java.util.Iterator;

import java.util.Comparator;

import java.util.Collections;

public class MyCode

{

public static void main(String[]args) throws Exception

{

ArrayList<Student> list = new ArrayList<Student>();

Scanner sc = new Scanner(System.in);

System.out.println("\n1.Add\n2.Delete\n3.Edit\n4.Search\n5.Print student number of each grade\n6.Sort by marks\n7.Display");

while(true)

{

System.out.println("\nEnter your choice:");

int ch = Integer.parseInt(sc.nextLine());

switch(ch)

{

case 1:System.out.println("\nEnter student name:");

String n = sc.nextLine();

System.out.println("\nEnter student prn:");

int p = Integer.parseInt(sc.nextLine());

System.out.println("\nEnter student marks:");

float m = Float.parseFloat(sc.nextLine());

list.add(new Student(n,p,m));

break;

case 2:System.out.println("Enter index of element to remove [ 0 to n-1 ]:");

int i = Integer.parseInt(sc.nextLine());

list.remove(i);

break;

case 3:System.out.println("\n1.Edit name\n2.Edit PRN\n3.Edit marks");

System.out.println("\nEnter your choice:");

int choice= Integer.parseInt(sc.nextLine());

switch(choice)

{

case 1:Iterator<Student> itr8=list.iterator();

System.out.println("Edit by name:");

String nam=sc.nextLine();

while(itr8.hasNext())

{

Student st=(Student)itr8.next();

if(nam==st.name)

{

System.out.println("Enter prn:");

String o=sc.nextLine();

st.name=o;

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

break;

}

}

break;

case 2:Iterator<Student> itr9=list.iterator();

System.out.println("Edit by PRN:");

int rollno=Integer.parseInt(sc.nextLine());

while(itr9.hasNext())

{

Student st=(Student)itr9.next();

if(rollno==st.prn)

{

System.out.println("Enter PRN:");

int r=Integer.parseInt(sc.nextLine());

st.prn=r;

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

break;

}

}

break;

case 3:Iterator<Student> itr0=list.iterator();

System.out.println("Edit by marks:");

float score=Float.parseFloat(sc.nextLine());

while(itr0.hasNext())

{

Student st=(Student)itr0.next();

if(score==st.marks)

{

System.out.println("Enter marks:");

float t=Float.parseFloat(sc.nextLine());

st.marks=t;

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

break;

}

}

break;

}

break;

case 4:System.out.println("\n1.Name\n2.PRN\n3.Index");

System.out.println("\nEnter your choice:");

int q= Integer.parseInt(sc.nextLine());

switch(q)

{

case 1:Iterator<Student> itr1=list.iterator();

System.out.println("Search by Name:");

String call = sc.nextLine();

while(itr1.hasNext())

{

Student st=(Student)itr1.next();

if(call==st.name)

{

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

break;

}

}

break;

case 2:Iterator<Student> itr2=list.iterator();

System.out.println("Search by prn:");

int roll=Integer.parseInt(sc.nextLine());

while(itr2.hasNext())

{

Student st=(Student)itr2.next();

if(roll==st.prn)

{

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

break;

}

}

break;

case 3:System.out.println("Search by index:");

int index=Integer.parseInt(sc.nextLine());

System.out.println(list.get(index));

break;

}

break;

case 5:Iterator<Student> itr2=list.iterator();

int c=0,a=0,b=0,d=0,e=0,w=0,x=0,y=0,z=0,v=0;

while(itr2.hasNext())

{

Student st=(Student)itr2.next();

if(st.marks>=81 && st.marks<=100)

{

w=++a;

}

else if(st.marks>=61 && st.marks<80)

{

x=++b;

}

else if(st.marks>=41 && st.marks<60)

{

y=++c;

}

else if(st.marks>=0 && st.marks<41)

{

z=++d;

}

else

{

v=++e;

}

}

System.out.println("Number of students who got A : "+ w);

System.out.println("Number of students who got B+: "+ x);

System.out.println("Number of students who got B : "+ y);

System.out.println("Number of students who got C : "+ z);

System.out.println("Number of students who got F : "+ v);

break;

case 6:System.out.println("Sort by name");

Collections.sort(list, new MarksComparator());

Iterator itr4 = list.iterator();

while(itr4.hasNext())

{

Student st=(Student)itr4.next();

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

}

break;

case 7:Iterator<Student>itr=list.iterator();

System.out.println("Name PRN Marks");

while(itr.hasNext())

{

Student st=(Student)itr.next();

System.out.println("\n"+st.name+" "+st.prn+" "+st.marks);

}

break;

default:System.out.println("Invalid choice");

break;

}

}

}

}

class Student

{

String name;

int prn;

float marks;

Student(String name, int prn, float marks)

{

this.name=name;

this.prn=prn;

this.marks=marks;

}

}