**import** java.util.\*;

**public** **class** Patient {

**private** **int** patientid;

 **private** String patientname;

 **private** **int** patientage;

**public** Patient(**int** patientid, String patientname, **int** patientage) {

 **this**.patientid = patientid;

 **this**.patientname = patientname;

 **this**.patientage = patientage;

 }

 **public** Patient(Patient p) {

 **this**.patientid = p.patientid;

 **this**.patientname = p.patientname;

 **this**.patientage = p.patientage;

 }

 **public** **int** getPatientid() {

 **return** patientid;

 }

 **public** **void** setPatientid(**int** patientid) {

 **this**.patientid = patientid;

 }

 **public** String getPatientname() {

 **return** patientname;

 }

 **public** **void** setPatientname(String patientname) {

 **this**.patientname = patientname;

 }

 **public** **int** getPatientage() {

 **return** patientage;

 }

 **public** **void** setPatientage(**int** patientage) {

 **this**.patientage = patientage;

 }

 **void** display()

 {

 System.*out*.println("patientid="+ patientid+

 "patientname ="+ patientname+

 "patientage ="+ patientage);

 }

**void** read()

 {

 Scanner s=**new** Scanner(System.*in*);

 System.*out*.println("enter id, name, age");

 **this**.patientid=s.nextInt();

 **this**.patientname=s.next();

 **this**.patientage=s.nextInt();

 }

}

**public** **class** Department {

 **private** String DepartmentName;

 **private** **int** Departmentid;

 **private** **int** nb;

**private** Patient ArrayPatient [ ];

**public** Department(String departmentName,**int** size) {

 DepartmentName = departmentName;

 **this**.nb = 0;

 ArrayPatient = **new** Patient[size];

 }

 **public** String getDepartmentName() {

 **return** DepartmentName;

 }

 **public** **void** setDepartmentName(String departmentName) {

 DepartmentName = departmentName;

 }

 **public** **int** getDepartment() {

 **return** Departmentid;

 }

 **public** **void** setDepartment(**int** department) {

 Departmentid = department;

 }

 **public** **int** getNb() {

 **return** nb;

 }

 **public** **void** setNb(**int** nb) {

 **this**.nb = nb;

 }

 **void** addpatient(Patient p)

 {

 **if**(nb<**this**.ArrayPatient.length)

 {

 **this**.ArrayPatient[nb++]=**new** Patient(p);

 }

 }

**void** search(**int** id)

 {

 **for**(**int** i=0;i<nb;i++)

 **if**(**this**.ArrayPatient[i].getPatientid()==id)

 {

 **this**.ArrayPatient[i].display();

 **break**;

 }

 }

 Patient searcho(**int** id)

 {

 **for**(**int** i=0;i<nb;i++)

 **if**(**this**.ArrayPatient[i].getPatientid()==id)

 **return** **this**.ArrayPatient[i];

 **return** **null**;

 }

 **void** deletepatient ( **int** id)

 {

 **for**(**int** i=0;i<nb;i++)

 **if**(**this**.ArrayPatient[i].getPatientid()==id)

 {

 **this**.ArrayPatient[i]=**this**.ArrayPatient[--nb];

 System.*out*.println("Done");

 }

 }

 **void** DisplayAll ( )

 {

 **for**(**int** i=0;i<nb;i++)

 **this**.ArrayPatient[i].display();

 }

}

**public** **class** Hospital {

**private** String name;

**private** **int** nb;

**private** Department[] Dept;

Hospital(**int** size)

{

 name="king khaled Hospital";

 nb=0;

 Dept=**new** Department[size];

}

**void** addDepartment(Department d)

{

 **if**(nb<Dept.length)

 Dept[nb++]=d;

}

}

Public class testHos {

Public static void main (String [] args){

Patient p = new patient (1, "abdulaziz");

Section s = new section (1, 10);

s.addpatient (p);

patient p1 = new patient (2, "Abdulla");

s.addpatient (p1);

patient p2 = new patient (3, "Ahmad");

s.addpatient (p2);

Section s2 = new section (2, 10);

patient p3 = new patient (4, "khaled");

s2.addpatient (p3);

patient p4 = new patient (5, "naser");

s2.addpatient (p4);

patient p5 = new patient (6, "fahad");

s2.addpatient (p5);

Hospital h = new Hospital ("Habeb",5);

h.addsection(s);

h.addsection(s2);

h.showall();

s.deletepatient(1);

s2.deletepatient(4);

h.showall();

h.deletesection(1);

h.showall();

}

}