**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();

}

}