Tutorial: Relationship between Classes (Aggregation)

```
public class Patient {
	private int patientId;
	private String name;
	private String disease;
	private int age;
	public Patient(int patientId, String name, String disease, int age) {

		this.patientId = patientId;
		this.name = name;
		this.disease = disease;
		this.age = age;
	}
	public int getPatientId() {
		return patientId;
	}
	public String getName() {
		return name;
	}
	public String getDisease() {
		return disease;
	}
	public int getAge() {
		return age;
	}

	public void displayPatientInfo()
	{
		System.out.println("Patient Id: "+patientId);
		System.out.println("Patient Name: "+name);
		System.out.println("Patient Disease: "+disease);
		System.out.println("Patient Age: "+age);

	}


}
```

```
public class Hospital {
     private String hospitalName;
     private Patient arrPatients[];
     private int nbPatients;
     public Hospital(String hospitalName, int size) {

          this.hospitalName = hospitalName;
          arrPatients=new Patient[size];
          nbPatients=0;
     }

     public boolean addPatient(Patient p)  {
          if(nbPatients<arrPatients.length)
          {
              arrPatients[nbPatients++]=p;
              return true;
          }
          else
              return false;
     }

     int countPatients(String d)
     {
          int count=0;
          for(int i=0; i<nbPatients; i++)
              if(arrPatients[i].getDisease().equals(d))
                   count++;

          return count;


     }
     public Patient[] getPatients(String d)
     {
        int size=countPatients(d);
          Patient patients[]=new Patient[size];
          int j=0;
          for(int i=0;i<nbPatients;i++)

              if(arrPatients[i].getDisease().equals(d))
              {
                   patients[j]=arrPatients[i];
                   j++;
              }

          return patients;

     }
```

```
    Patient getOldestPatient(String d)
    {
         int nPatients=countPatients(d);

         Patient patients[]=getPatients(d);

         Patient oldest=patients[0];

         for(int i=0; i<nPatients; i++)
             if(patients[i].getAge()>oldest.getAge())
                  oldest=patients[i];

         return oldest;


    }


    public Patient[] getTyphoidPatients(int age)
    {

       int size=countPatients("Typhoid");
         Patient patients[]=new Patient[size];
         int j=0;
         for(int i=0;i<nbPatients;i++)

             if(arrPatients[i].getDisease().equals("Typhoid")&&
arrPatients[i].getAge()>age )
             {
                  patients[j]=arrPatients[i];
                  j++;
             }

         return patients;

    }



}
```