

The background is a light cream color decorated with various abstract elements. In the top left, there is a yellow rectangular watercolor shape with a black starburst line drawing next to it. Below that is a greyish-white watercolor shape. In the top center, there are horizontal black lines over a red watercolor brushstroke. In the top right, there is a large yellow circular watercolor shape with a black dotted pattern to its left and a small yellow circle below it. In the bottom left, there is a pinkish-red watercolor shape with a black line drawing of a profile. In the bottom right, there is a greyish-white watercolor shape with a black dotted pattern above it. At the bottom center, there are several small black dots and a yellow circular watercolor shape.

Class Relationship

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ASSOCIATION

Hubungan dua kelas antara guru dan murid yaitu banyak-ke-banyak.

Satu guru dapat mengajar banyak murid, dan satu murid dapat diajar oleh beberapa guru.

```
import java.io.*;
public class murid {
    private int NIM;
    private String Nama;
    private String role;
    private String jenisKelamin;

    public murid (int NIM, String Nama, String role, String jenisKelamin) {
        this.NIM = NIM;
        this.Nama = Nama;
        this.role = role;
        this.jenisKelamin = jenisKelamin;
    }

    public void setNIM (int NIM) {
        this.NIM = NIM;
    }

    public int getNIM() {
        return NIM;
    }

    public void setName (String Nama) {
        this.Nama = Nama;
    }
}
```

```
import java.io.*;
public class guru {
    private int NIP;
    private String Nama;
    private String mapel;
    private String jenis_kelamin;

    public guru (int NIP, String Nama, String mapel, String jenis_kelamin) {
        this.NIP = NIP;
        this.Nama = Nama;
        this.mapel = mapel;
        this.jenis_kelamin = jenis_kelamin;
    }

    public void setNIP (int NIP) {
        this.NIP = NIP;
    }

    public int getNIP() {
        return NIP;
    }

    public void setName (String Nama) {
        this.Nama = Nama;
    }
}
```

Aggregation

Class guru, murid, kelas, dan sekolah adalah contoh dari aggregation. Yaitu ketika class sekolah memiliki object pada class kelas, lalu class kelas memiliki object pada class murid dan guru.

```
import java.io.*;
public class guru {
    private int NIP;
    private String Nama;
    private String mapel;
    private String jenis_kelamin;

    public guru (int NIP, String Nama, String mapel, String jenis_kelamin) {
        this.NIP = NIP;
        this.Nama = Nama;
        this.mapel = mapel;
        this.jenis_kelamin = jenis_kelamin;
    }
}
```

```
import java.io.*;
public class murid {
    private int NIM;
    private String Nama;
    private String role;
    private String jenisKelamin;

    public murid (int NIM, String Nama, String role, String jenisKelamin) {
        this.NIM = NIM;
        this.Nama = Nama;
        this.role = role;
        this.jenisKelamin = jenisKelamin;
    }
}
```

```
import java.io.*;

public class kelas {
    private int tingkatKelas;
    private String Kelas;
    private List <murid> murid;
    private List <guru> guru;
}
```

```
import java.io.*;

public class sekolah {
    private String Sekolah;
    private String kepalaSekolah;
    private List<kelas> kelas;
}
```

Composition

Terdapat pada class sekolah, karena class tersebut bergantung dengan class kelas. Apabila class kelas tidak ada maka class sekolah tidak ada.

```
import java.io.*;

public class sekolah {
    private String Sekolah;
    private String kepalaSekolah;
    private List<kelas> kelas;

    public sekolah (String Sekolah, String kepalaSekolah, List<kelas> kelas) {
        this.Sekolah = Sekolah;
        this.kepalaSekolah = kepalaSekolah;
        this.kelas = kelas;
    }
}
```

Dependence

Pada class tampil menggunakan class murid, guru, kelas, dan sekolah sebagai parameter dalam methodnya.

```
import java.util.*;

public class tampil {
    public static void tampilmurid(murid murid) {
        System.out.println("\n==== DAFTAR MURID =====");
        System.out.println("NIM      :"+murid.getNIM());
        System.out.println("Nama      :"+murid.getNama());
        System.out.println("Role      :"+murid.getrole());
        System.out.println("Jenis Kelamin      :"+murid.getjenisKelamin());
    }

    public static void tampilguru(guru guru) {
        System.out.println("\n==== DAFTAR GURU =====");
        System.out.println("NIP      :"+guru.getNIP());
        System.out.println("Nama      :"+guru.getNama());
        System.out.println("Mata Pelajaran      :"+guru.getmapel());
        System.out.println("Jenis Kelamin      :"+guru.getjenis_kelamin());
        System.out.println("=====\\n");
    }

    public static void tampilkelas(kelas kelas) {
        List<murid> murid1 = kelas.getmurid();
        List<guru> guru1 = kelas.getguru();
        System.out.println("\n==== DAFTAR KELAS =====");
        System.out.println("Tingkat      : tahun ke-"+kelas.gettingkatKelas());
        System.out.println("Kelas      : Kelas " +kelas.getKelas());
        System.out.println("=====\\n");
        for(guru g:guru1) {
            tampilguru(g);
            for(murid m:murid1) {
                tampilmurid(m);
            }
        }
    }

    public static void tampilsekolah (sekolah sekolah) {
        List<kelas> kelas1 = sekolah.getkelas();
        System.out.println("==== SEKOLAH =====");
        System.out.println("Sekolah      :"+sekolah.getSekolah());
        System.out.println("Kepala Sekolah      :"+sekolah.getkepalaSekolah());
        System.out.println("=====\\n");
        for(kelas k:kelas1) {
            tampilkelas(k);
        }
    }
}
```