

Bad Smells:

>Duplicated Code:

→ Similarity between two expressions in two methods of the same class

```
public Hourl()

public void setTimecards_in(int hour,int min,int day)
{
    timecards[day-1].setIn_hour(hour);
    timecards[day-1].setIn_min(min);
}
public void setTimecards_out(int hour,int min,int day)
{
    timecards[day-1].setOut_hour(hour);
    timecards[day-1].setOut_min(min);
}

public Functionalities_Employee()

public Salaried register_Salaried(int id)
public Commissioned register_Commissioned(int id)
public Hourly register_Hourly(int id)

public void remove_Salaried(ArrayList<Salaried> salarieds,int id)
public void remove_Commissioned(ArrayList<Commissioned> commissioned,int id)
public void remove_Houly(ArrayList<Hourly> hourlies,int id)

public void change_Salaried(ArrayList<Salaried> salarieds, int id)
public void change_Commissioned(ArrayList<Commissioned> commissioned, int id)
public void change_Hourly(ArrayList<Hourly> hourlies, int id)

public void add_service_Salaried(ArrayList<Salaried> salarieds, int id)
public void add_service_Comiissioned(ArrayList<Commissioned> commissioned, int id)
public void add_service_Hourly(ArrayList<Hourly> hourlies, int id)

public Functionalities_Schedule()

public void change_Salaried_schedule(ArrayList<Salaried> salarieds,Schedule schedule,int id)
public void change_Commissioned_schedule(ArrayList<Commissioned> commissioned,Schedule schedule,int id)
public void change_Hourly_schedule(ArrayList<Hourly> hourlies,Schedule schedule,int id)

public Schedule() whole class
```

>Long Parameter List:

```
public void Payment(ArrayList<Hourly> hourlies,ArrayList<Commissioned> commissioned,ArrayList<Salaried> salarieds,Schedule schedule,int day,int month)
```

>Long Method:

→ You have many temporary variables:

```
public Functionalities_Employee() all methods  
public Functionalities_Schedule() all methods
```

→ The amount of switch statement for dispatching and handling request:

```
public void Payment(ArrayList<Hourly> hourlies,ArrayList<Commissioned>  
commissioneds,ArrayList<Salaried> salarieds,Schedule schedule,int day,int month)
```

```
public void change_Salaried(ArrayList<Salaried> salarieds, int id)  
public void change_Commissioned(ArrayList<Commissioned> commissioneds, int id)  
public void change_Hourly(ArrayList<Hourly> hourlies, int id)
```

>Large Class:

→ Fields and Methods:

```
public Functionalities_Employee()  
public Functionalities_Schedule()
```

→ On class is commonly changed in different ways for different reasons:

```
public Schedule()
```

→ Feature Envy:

```
public Functionalities_Schedule()  
public Functionalities_Employee()
```

>Middle Man:

→ If only a few methods aren't doing much:

```
public Schedule() all set and get Schedule methods
```

>Indecent Exposure:

→ Methods or classes that ought not to be visible to clients are publicly visible to them:

```
public Hourly  
public Salaried  
public Commissioned
```

>Data Class:

```
public Hourly
```

```
public Salaried
```

```
public Commissioned
```