

```
1 public class Clock {
2     private int hour;
3     private int minute;
4
5     public int getMinute() {
6         return this.minute;
7     }
8
9     public int getHour() {
10        return this.hour;
11    }
12
13    public String getTime() {
14        return hour + " " + minute;
15    }
16 }
```

```
1 public class DigitalClock extends Clock {
2     private boolean usingMilitaryTime;
3
4     public DigitalClock(boolean usingMilitaryTime) {
5         this.usingMilitaryTime = usingMilitaryTime;
6     }
7     public boolean isMilitaryTime() {
8         return usingMilitaryTime;
9     }
10    public int getHour() {
11        if (this.isMilitaryTime() || super.getHour() <= 12) {
12            return super.getHour();
13        }
14        else {
15            return super.getHour() - 12;
16        }
17    }
18    public String getPeriod() {
19        if (this.isMilitaryTime()) { return ""; }
20        else if (super.getHour() <= 12) { return "am"; }
21        else { return "pm"; }
22    }
23
24    public String getTime() {
25        return this.getHour() + ":" + this.getMinute() + this.getPeriod();
26    }
27 }
```

```
1 public class AnalogClock extends Clock {
2     public static final int NUM_HOURS = 12;
3     public static final int NUM_MINUTES = 60;
4
5     public double getHourHandAngle() {
6         return 360 * ((double)(this.getHour() % 12) / NUM_HOURS);
7     }
8     public double getMinuteHandAngle() {
9         return 360 * ((double)this.getMinute() / NUM_MINUTES);
10    }
11
12    public String getTime() {
13        return "Hour Hand: " + this.getHourHandAngle() + "%, " +
14            "Minute Hand: " + this.getMinuteHandAngle() + "%";
15    }
16 }
```

```
1 public class PreciseDigitalClock extends DigitalClock {
2     private int second = 17;
3
4     public PreciseDigitalClock() {
5         super(false);
6     }
7
8     public int getSecond() {
9         return this.second;
10    }
11
12    public String getTime() {
13        return this.getHour() + ":" +
14            this.getMinute() + ":" +
15            this.getSecond() +
16            this.getPeriod();
17    }
18 }
```

```

1 public class Snow {
2     public void method2() {
3         System.out.println("Snow 2");
4     }
5     public void method3() {
6         System.out.println("Snow 3");
7     }
8 }

```

```

1 public class Sleet extends Snow {
2     public void method2() {
3         System.out.println("Sleet 2");
4         super.method2();
5         method3();
6     }
7     public void method3() {
8         System.out.println("Sleet 3");
9     }
10 }

```

```

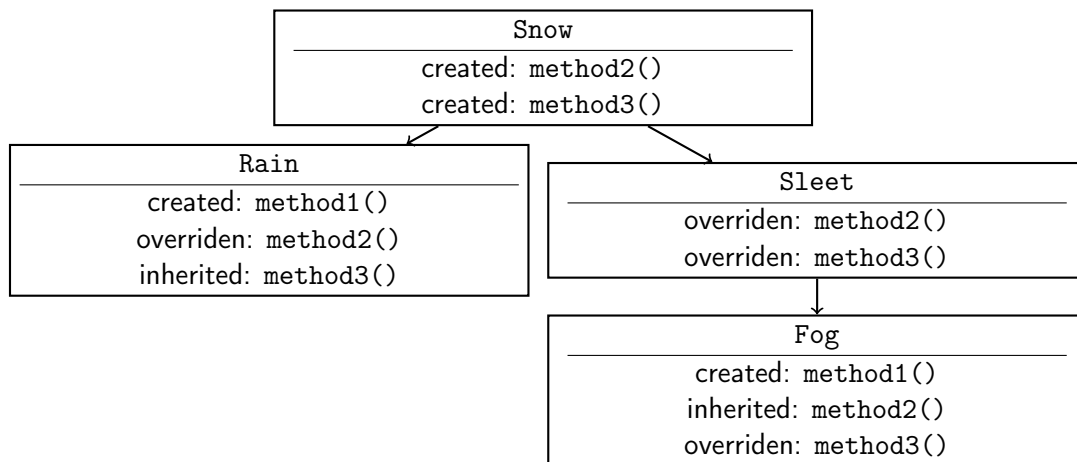
1 public class Rain extends Snow {
2     public void method1() {
3         System.out.println("Rain 1");
4     }
5     public void method2() {
6         System.out.println("Rain 2");
7     }
8 }

```

```

1 public class Fog extends Sleet {
2     public void method1() {
3         System.out.println("Fog 1");
4     }
5     public void method3() {
6         System.out.println("Fog 3");
7     }
8 }

```



```

Snow var2 = new Rain();
var2.method2();

```

```

Snow var2 = new Fog();
((Sleet)var2).method2();

```

```

Snow var2 = new Rain();
((Rain) var2).method1();

```

```

Snow var2 = new Sleet();
var2.method2();

```

```

Snow var2 = new Rain();
var2.method2();

```

```

Snow var2 = new Rain();
((Sleet) var2).method2();

```