

1) VisitorGroupSum.java

```
1 package visitor.e2a;
2
3 public class VisitorGroupSum implements Visitor {
4     int lineSum = 0;
5     int rectangleSum = 0;
6     int groupSum = 0;
7
8
9     @Override
10    public void visit(Rectangle rectangle) {
11        rectangleSum += rectangle.value;
12    }
13
14    @Override
15    public void visit(Line line) {
16        lineSum += line.value;
17    }
18
19    @Override
20    public void visit(FigureGroup group) {
21        groupSum += group.value;
22    }
23
24    @Override
25    public String toString() {
26        return String.format("line=%d rectangle=%d group=%d\n",
27            lineSum, rectangleSum, groupSum);
28    }
29 }
```

2) Example2a.java

```
1 package visitor.e2a;
2
3 import java.util.Scanner;
4
5 public class Example2a {
6
7     static FigureGroup root = new FigureGroup(0);
8
9     static void drawFigures() {
10         System.out.println();
11         for (int i = 0; i < root.getCount(); ++i) {
12             System.out.printf("%d: ", i);
13             root.get(i).draw(0);
14         }
15         System.out.println();
16     }
17
18     static void execute(String cmd) {
19         try {
20             Visitor visitor = null;
21             String[] a = cmd.split(" ");
22             switch (a[0].toLowerCase()) {
23                 case "rectangle": root.add(new Rectangle(Integer.valueOf(a[1]))); break;
24                 case "line": root.add(new Line(Integer.valueOf(a[1]))); break;
25                 case "remove":
26                     int index = Integer.valueOf(a[1]);
27                     root.remove(index);
28                     break;
29                 case "duplicate":
30                     Figure figure = root.get(Integer.valueOf(a[1]));
31                     root.add(figure.clone());
32                     break;
33                 case "group":
34                     FigureGroup group = new FigureGroup(0);
35                     for (int i = 1; i < a.length; ++i)
36                         group.add(root.get(Integer.valueOf(a[i])));
37                     root.add(group);
38                     for (int i = 0; i < group.getCount(); ++i)
39                         root.remove(group.get(i));
40                     break;
41                 case "max":
42                     root.accept(visitor = new VisitorMax());
43                     System.out.println(visitor);
44                     break;
45                 case "sum":
46                     root.accept(visitor = new VisitorSum());
47                     System.out.println(visitor);
48                     break;
49                 case "count":
50                     root.accept(visitor = new VisitorCount());
51                     System.out.println(visitor);
52                     break;
53                 case "groupsum":
54                     root.accept(visitor = new VisitorGroupSum());
55                     System.out.println(visitor);
56                     break;
57                 case "quit": System.exit(0); break;
58             }
59         } catch (Exception e) {
60         }
61     }
62
63     static void prompt() {
64         System.out.printf(" 사각형 : rectangle 정수Wn");
65         System.out.printf(" 선 : line 정수Wn");
66         System.out.printf(" 삭제 : remove 번호Wn");
67         System.out.printf(" 복제 : duplicate 번호Wn");
68         System.out.printf(" 그룹 : group 번호1, 번호2,...Wn");
```

```

69     System.out.printf("   최대값   : maxWn");
70     System.out.printf("   합계     : sumWn");
71     System.out.printf("   도형 수   : countWn");
72     System.out.printf("   그룹합계 : groupsumWn");
73     System.out.printf("   종료     : quitWn");
74     System.out.printf("   ?   ");
75 }
76
77 public static void main(String[] args) {
78     try (Scanner scanner = new Scanner(System.in)) {
79         while (true) {
80             prompt();
81             String cmd = scanner.nextLine();
82             execute(cmd);
83             drawFigures();
84         }
85     }
86 }
87 }

```