Software Project 04 (Spring 2023) **Instructor:** *Joon-Woo Lee*
Problem Set 4
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1. The following code is the main method we want to run, and the following result is the corresponding console output. Declare the **Rectangle** class for this main method.

```
public static void main(String args[]) {
        Rectangle r = new Rectangle(2, 2, 8, 7);
        Rectangle s = new Rectangle(5, 5, 6, 6);
        Rectangle t = new Rectangle(1, 1, 10, 10);

        r.show();
        System.out.println("Area of s is " + s.square());
        if(t.contains(r)) System.out.println("t contains r.");
        if(t.contains(s)) System.out.println("t contains s.");
}
```

Figure 1: Main method for Problem 1

```
A rectangle with 8x7 at (2,2)
Area of s is 36.
t contains r.
```

Figure 2: Console window for Problem 1

2. The class **Day**, which represents a day's to-do list, is as follows. Write a class **MonthSchedule** to represent a month's to-do. Create an array of Day objects, a constructor, and the input(), view(), finish(), and run() methods in the MonthSchedule class, and the main function performs only these two commands.

   - MonthSchedule april = new MonthSchedule(30);
   - april.run();

```
public class Day {
        String work;
        void set(String work) { this.work = work; }
        String get() { return work; }
        void show() {
                if(work == null) System.out.println("Nothing.");
                else System.out.println("There is [" + work + "]");
        }
}
```

Figure 3: Day class for Problem 2

```
This is a schedule management program for this month.
Command(Insert: 1, Show: 2, Quit: 3) >> 1
Date(1-30)? 17
Do list (without space)? Studying

Command(Insert: 1, Show: 2, Quit: 3) >> 2
Date(1-30)? 17
There is [Studying] on the 17th.

Command(Insert: 1, Show: 2, Quit: 3) >> 3
This is the end of the program.
```

Figure 4: Console window for Problem 1