1.

Call	Output
`mystery1(8);`	8 6
`mystery1(-3);`	-3 4
`mystery1(1);`	1 3
`mystery1(0);`	0 0

2.

Call	Output
`mystery2(20, 4);`	5 4
`mystery2(7, 6);`	7 3
`mystery2(14, 7);`	2 5
`mystery2(24, 8);`	3 5
`mystery2(13, 9);`	4 9

3.
```
Scanner console = new Scanner(System.in);
System.out.print("x coordinate? ");
double x = console.nextDouble();
System.out.print("y coordinate? ");
double y = console.nextDouble();

int neg = 0;
if (x < 0.0) {
    neg++;
}
if (y < 0.0) {
    neg++;
}
System.out.println("negatives = " + neg);
```

4.
```
public static int daysInMonth(int month) {
    if (month == 4 || month == 6 || month == 9 || month == 11) {
        return 30;                  // 30 days have September, April, June, and November
    } else if (month == 2) {
        return 28;                  // 28 days in February
    } else {
        return 31;                  // 31 days in all other months
    }
}
```

5.
```java
public static int quadrant(double x, double y) {
    if (x > 0 && y > 0) {
        return 1;
    } else if (x < 0 && y > 0) {
        return 2;
    } else if (x < 0 && y < 0) {
        return 3;
    } else if (x > 0 && y < 0) {
        return 4;
    } else {  // at least one equals 0
        return 0;
    }
}
```

6.
```java
System.out.print("how many integers? ");
int count = console.nextInt();
int sum = 0;
int max = 0;

for (int i = 1; i <= count; i++) {
    System.out.print("next integer? ");
    int next = console.nextInt();
    if (next % 2 == 0) {
        sum += next;
        if (next > max) {
            max = next;          // or,  max = Math.max(max, next);
        }
    }
}

System.out.println("even sum = " + sum);
System.out.println("even max = " + max);
```