COS126 FivePerLine Debugging Activity

- Individual Activity
- The first two versions of `FivePerLine.java` have compilation errors. Find each problem and fix it.

```
 1 /*************************************************************************
 2  *
 3  *  Print the integers from 1000 to 2000, 5 per line.
 4  *
 5  *************************************************************************/
 . . .
10 public class Buggy1FivePerLine {
11   public static void main(String[] args) {
12       int i;
13       // print integers from 1000 to 2000, 5 per line
14       for (i = 1000; i < 2000; i+=5) {
15           for (j = 0; j < 5; j+=1) {
16               System.out.print(i +  j + " ");
17           }
18           System.out.println();
19       }
20       System.out.println(i);
21   }
22 }

5 errors found
```

Here's the second:

```
10 public class Buggy2FivePerLine {
11   public static void main(String[] args) {
12
13       // print integers from 1000 to 2000, 5 per line
14       for (int i = 1000; i < 2000; i+=5) {
15           for (int j = 0; j < 5; j+=1)
16               System.out.print(i +  j + " ");
17
18           System.out.println();
19       }
20       System.out.println(i);
21   }
22 }

1 error found:
File: C:\cos126\loops\Buggy2FivePerLine.java  [line: 20]
Error: cannot find symbol
symbol  : variable i
location: class FivePerLine
```

- This one compiles, but doesn't run correctly, it infinite loops:

```
10 public class Buggy3FivePerLine {
11   public static void main(String[] args) {
12       int i;
13       // print integers from 1000 to 2000, 5 per line
14       for (i = 1000; i <= 2000; i--) {
15           for (int j = 0; j < 5; j+=1)
16               System.out.print(i +  j + " ");
17
18           System.out.println();
19       }
20       System.out.println(i);
21   }
22 }
```

- This version also has a runtime problem - missing output.

```
10 public class Buggy4FivePerLine {
11   public static void main(String[] args) {
12       int i;
13       // print integers from 1000 to 2000, 5 per line
14       for (i = 1000; i >= 2000; i++) {
15           for (int j = 0; j < 5; j+=1)
16               System.out.print(i +  j + " ");
17
18           System.out.println();
19       }
20       System.out.println(i);
21   }
22 }
```

- Write another version of this program which uses one `for` loop and one `if` statement. Debug it yourself. Hint: use `%` (see Exercise 1.3.8).

- Recommended Exercise: 1.3.16 (Booksite Exercises 1.3.15)