

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 100 to 200, 5 per line.
4 *
5 *****/
. . .
10 public class Buggy1FivePerLine {
11     public static void main(String[] args) {
12         int i;
13         // print integers from 100 to 200, 5 per line
14         for (i = 100; i < 200; 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 100 to 200, 5 per line
14         for (int i = 100; i < 200; 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 100 to 200, 5 per line
14         for (i = 100; i <= 200; 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 100 to 200, 5 per line
14         for (i = 100; i >= 200; 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)

