3. What (if anything) is wrong with each of the following statements?

if (a > b) then c = 0; word then

if a > b { c = 0; } ( ) missing on condition

if (a > b) c = 0; Nothing wrong

if (a > b) c = 0 else b = 0; missing ; before else

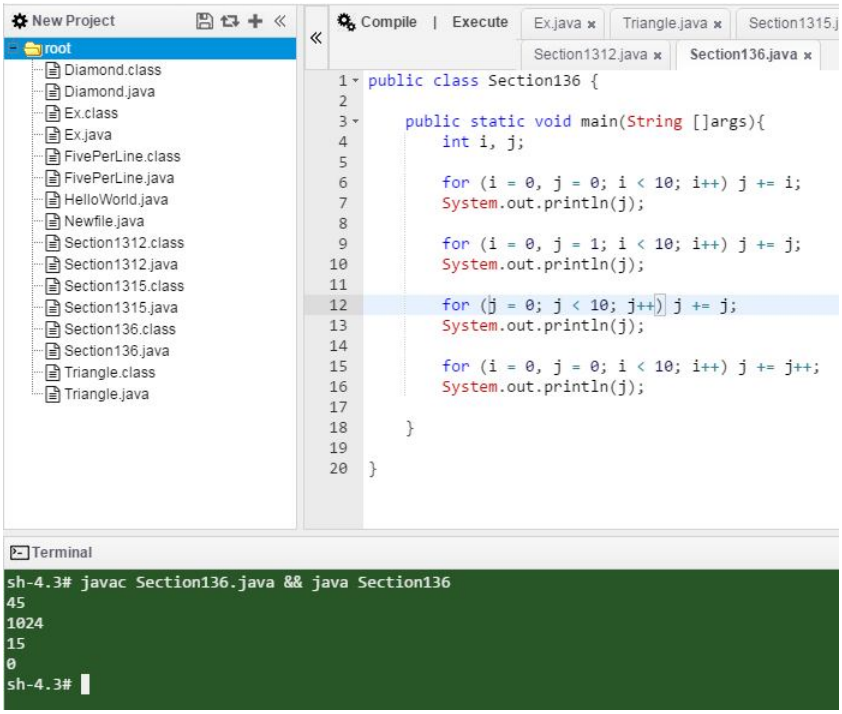
6. Suppose that i and j are both of type int. What is the value of j after each of the following statements is executed?

for (i = 0, j = 0; i < 10; i++) j += i; **45**

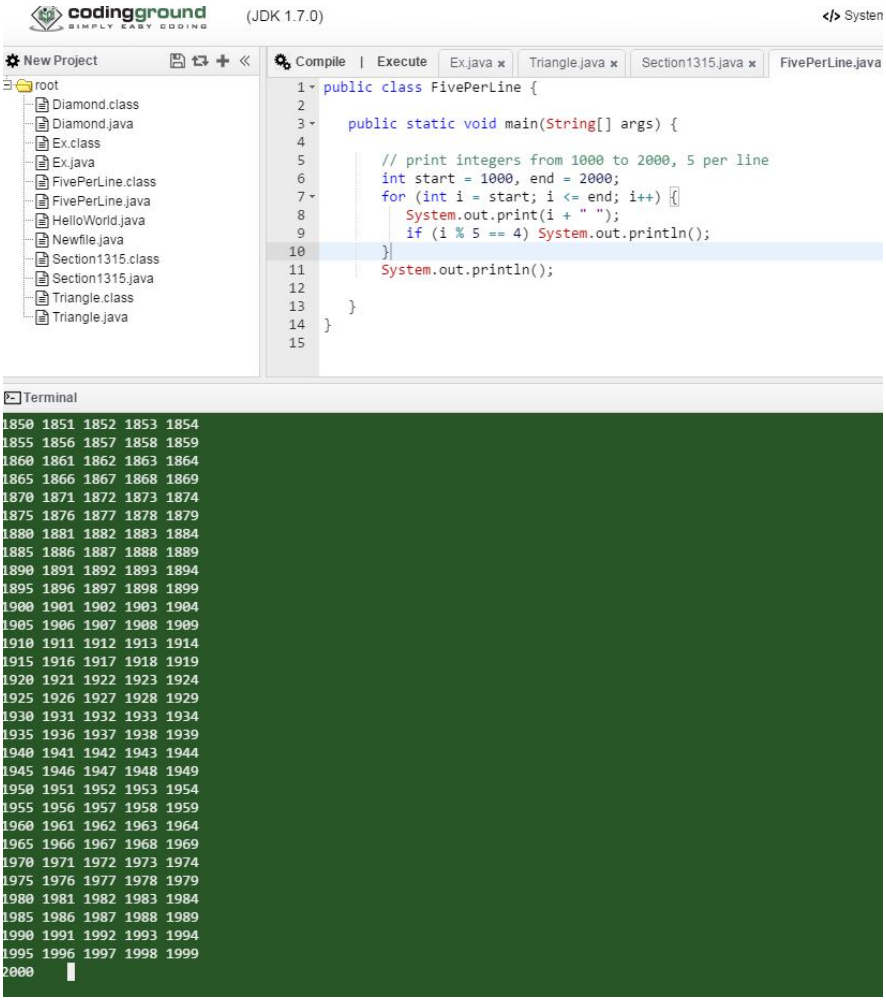
for (i = 0, j = 1; i < 10; i++) j += j; **1024**

for (j = 0; j < 10; j++) j += j; **15**

for (i = 0, j = 0; i < 10; i++) j += j++; **0**



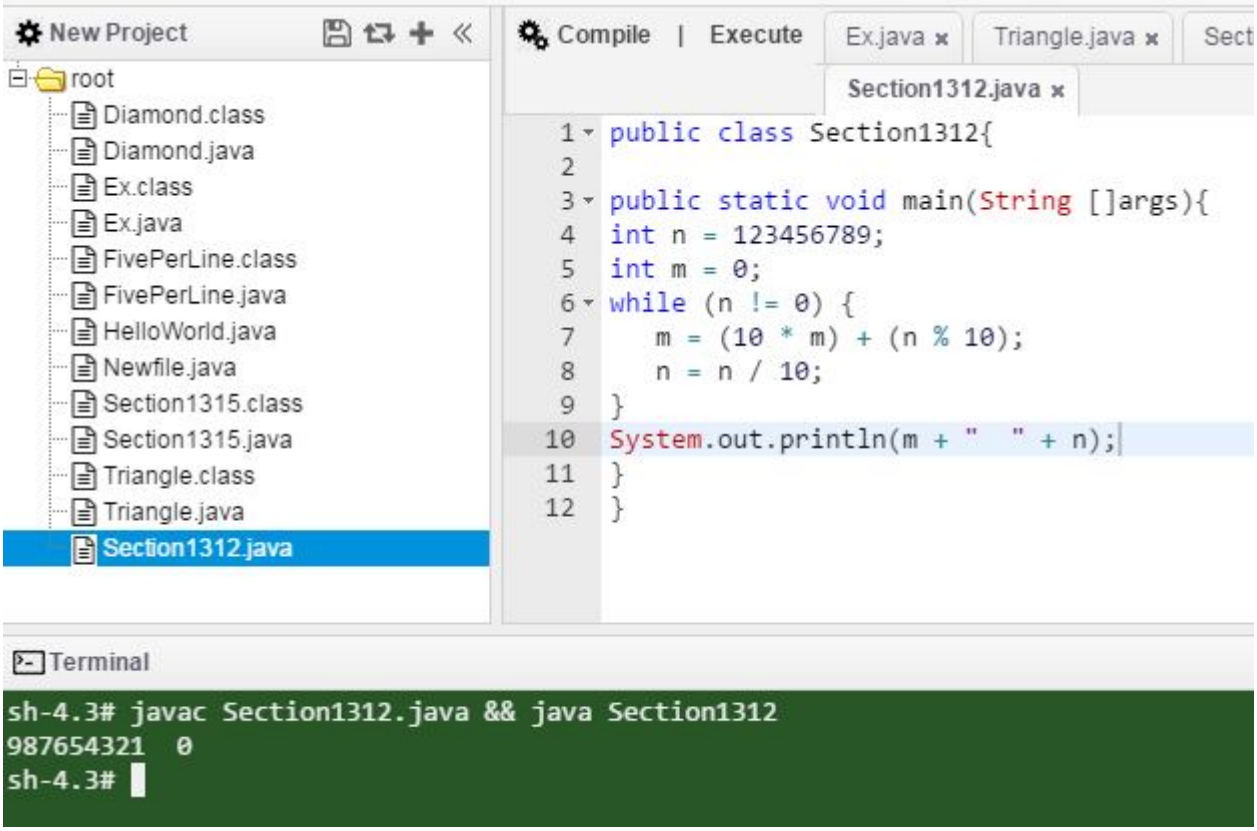
8. Write a program FivePerLine.java that, using one for loop and one if statement, prints the integers from 1000 to 2000 with five integers per line. Hint: use the % operator.



12. What is the value of m and n after executing the following code?

```
int n = 123456789;

int m = 0;

while (n != 0) {

  m = (10 * m) + (n % 10);

  n = n / 10;

}
```

M will be 9876543210 and n equals to 0



34. Calendar. Write a program Calendar that takes two command line arguments m and y and prints out the monthly calendar for the mth month of year y. For example, your output for Calendar 2 2009 should be

February 2009

S M Tu W Th F S

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

22 23 24 25 26 27 28

Hint: see programs LeapYear.java and DayOfWeek.java.

Web Exercises

11. What is wrong with the following code fragment?

```
double x = -32.2;

boolean isPositive = (x > 0);

if (isPositive = true) System.out.println(x + " is positive");

else                   System.out.println(x + " is not positive");
```

15. What does the following program do?

```
public static void main(String[] args) {
  int N = Integer.parseInt(args[0]);
  int x = 1;
  while (N >= 1) {
    System.out.println(x);
    x = 2 * x;
    N = N / 2;
  }
}
```

It prints power of two less than the N number (parameter), examples:

```
sh-4.3# javac Section1315.java && java Section1315 5
1
2
4
sh-4.3# javac Section1315.java && java Section1315 10
1
2
4
8
sh-4.3#
```

50. Write a program Triangle.java that takes a command-line argument N and prints an N-by-N triangular pattern like the one below.

```
* * * * * *
```

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. . * * * *

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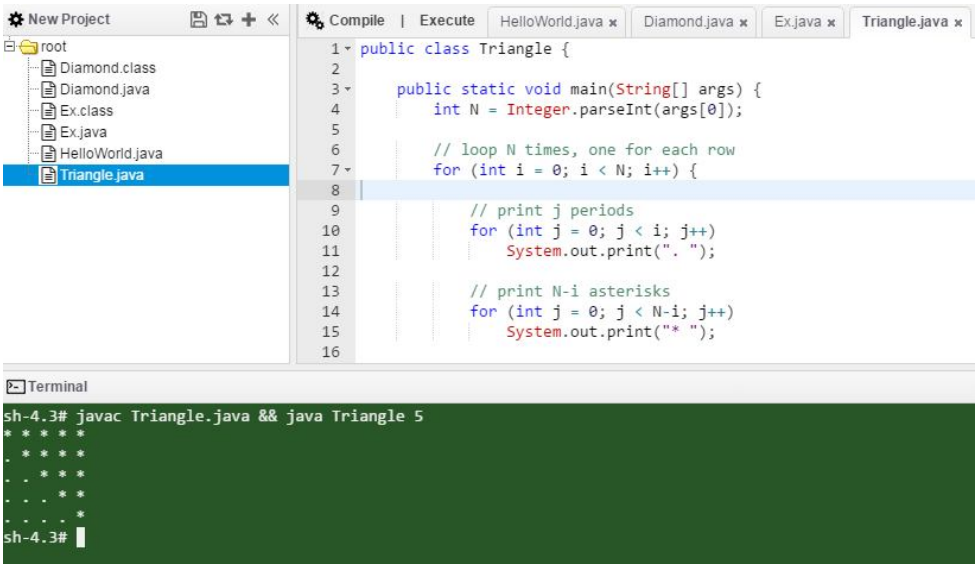
. . . . * *

. . . . . *



51. Write a program Ex.java that takes a command-line argument N and prints a (2N + 1)-by-(2N + 1) ex like the one below. Use two for loops and one if-else statement.

* . . . . . *

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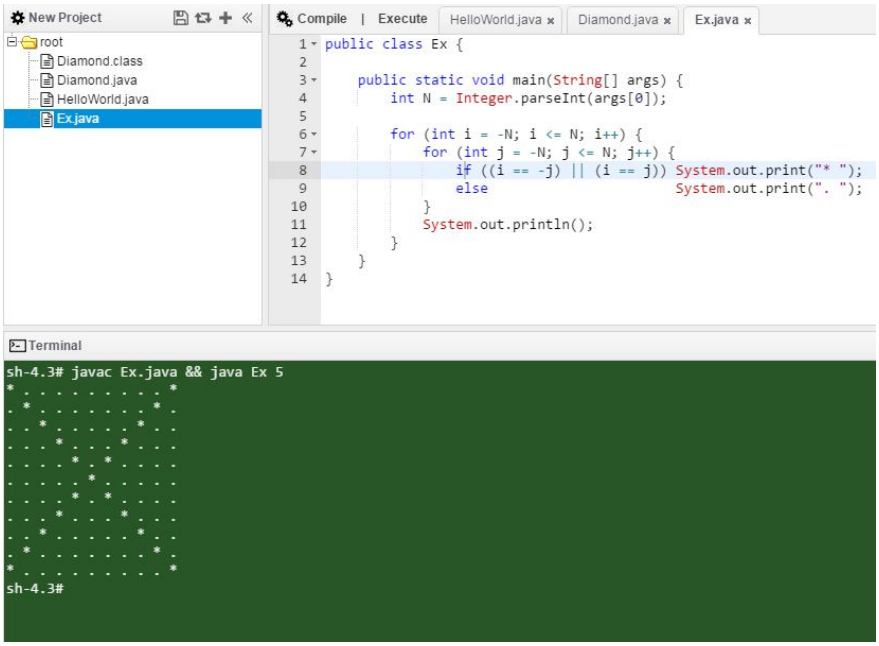

53. Write a program Diamond.java that takes a command-line argument N and prints a (2N + 1)-by-(2N + 1) diamond like the one below.

% java Diamond 4

. . . . * . . . .

. . . * * * . . .

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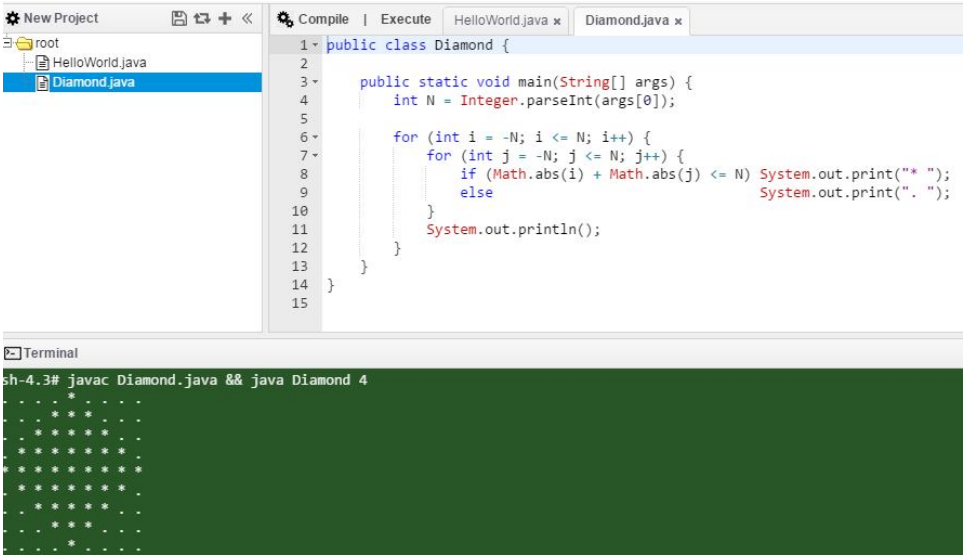
. . . . * . . . .



56. Seasons. Write a program Season.java that takes two command line integers M and D and prints the season corresponding to month M (1 = January, 12 = December) and day D in the northern hemisphere. Use the following table

SEASON	FROM	TO
Spring	March 21	June 20
Summer	June 21	September 22
Fall	September 23	December 21
Winter	December 21	March 20