

KEY

Introduction to Java Unit 3. Exercises

1. a = 3	int a = 13 % 10;	$\begin{array}{r} 10 \overline{)13} \\ -10 \\ \hline 3 \end{array}$ remainder
2. b = 0	int b = 15 % 5;	$\begin{array}{r} 0 \\ 10 \overline{)15} \\ -10 \\ \hline 5 \end{array}$
3. c = 8.0	double c = 8 % 10;	$\begin{array}{r} 10 \overline{)8} \\ -8 \\ \hline 0 \end{array}$
4. d = 0	int d = 36 % 12;	$\begin{array}{r} 12 \overline{)36} \\ -36 \\ \hline 0 \end{array}$
5. e = 3.0	double e = 7 % 4;	$\begin{array}{r} 4 \overline{)7} \\ -4 \\ \hline 3 \end{array}$

6. What is displayed? 7 ^ 8 ^ 9 ^ 10 ^	int num = 7; while (num <= 10) { System.out.print(num + " "); num++; }
7. What is displayed? 8 ^ 9 ^ 10 ^ 11 ^	int num = 7; while (num <= 10) { num++; System.out.print(num + " "); }
8. What is displayed? 6 ^ 5 ^	int num = 7; while (num > 5) { num--; System.out.print(num + " "); }
9. What is displayed? 0 ^ 1 ^ 2 ^ 0 ^	int h = 6; while (h < 10) { System.out.print(h % 3 + " "); h++; }
10. What is displayed? 2 ^ 4 ^ 8 ^ 16 ^ 32	int x = 2; while (x <= 25) { System.out.print(x + " "); x = 2*x; }
11. What is displayed? 10 ^ 20 ^ 40 ^	int x = 5; int n = 1; while (n <= 3) { x = 2*x; n++; System.out.print(x + " "); }

use ^ for blank

x $\boxed{+}$ $\cancel{2}$ 3
 y $\boxed{2}$ $\cancel{5}$ 8

12. What is displayed? $\text{if } x = 1, y = 2$ $\text{if } x = 2, y = 5$ $\text{if } x = 3, y = 8$	<pre>int x = 1; int y; System.out.println("y = 3x - 1"); while (x <= 3) { y = 3*x - 1; System.out.println("if x = " + x + ", y = " + y); x++; }</pre>
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13. What is displayed? 1, 2, 3, 4,	<pre>for (int j = 1; j <= 4; j++) { System.out.print(j + ", "); }</pre>
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14. What is displayed? 0, 2, 4, 6, 8, 10,	<pre>for (int n = 0; n <= 10; n = n + 2) { System.out.print(n + ", "); }</pre>
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15. What is displayed? 5, 4, 3, 2, 1, 0,	<pre>for (int k = 5; k >= 0; k--) { System.out.print(k + ", "); }</pre>
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16. What is displayed? $x = 0, y = -2$ $x = 1, y = 1$ $x = 2, y = 4$	<pre>for (int x = 0; x <= 2; x++) { int y = 3 * x - 2; System.out.println("x = " + x + ", y = " + y); }</pre> <p>$x: 0+2$ $y: -2 \times 4$</p>
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17. What is displayed? 81	<pre>int answer = 1; for (int j = 1; j <= 4; j++) { answer = 3 * answer; } System.out.println(answer);</pre> <p>answer: 1 3 9 27</p> <p>j: 1 2 3 4</p>
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18. What is displayed? 0 1 2 0 1 2 0 1	<pre>for (int k = 6; k < 14; k++) { System.out.print(k%3 + " "); }</pre> <p>81 6 thru 13</p>
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5 exit loop

19. The code to the right is executed and four numbers are printed. If the last number is 17, what might the first three numbers be? $\begin{array}{r} 2 \\ 2 \\ 9 \\ \hline 17 \end{array}$ $\begin{array}{r} 4 \\ 4 \\ 9 \\ \hline 17 \end{array}$ basically sum to 17 int 2...9	<pre>int num = 0; while (num < 15) { int w = (int)(8*Math.random()) + 2; num += w; System.out.println(w); } System.out.println(num);</pre>
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2 to 9

20. If the code to the right prints: 2 6 10 Name all the possible integer values that h might be. h might be 10 11	<pre>// h is declared and initialized for (int n = 2; n <= h; n += 4) System.out.print(n + " ");</pre>
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12
13

n: 2
6

10: 10, 11, 12, 13

14