**Chapter 2**

Exercise 2.1

1. Left parenthesis ‘(‘, Right parenthesis ‘)’
2. If
3. //
4. Space, tab, and newlines
5. Keywords
6. Main
7. System.out.print, System.out.println, System.out.printf

Exercise 2.2

1. False, because comments in java do no affect the execution of the program. The text after // is ignored by the compiler and is not printed on the screen.
2. True
3. False, because java is case-sensitive, meaning number and NuMbEr are considered different variables.
4. False, because the remainder operator (%) can be used with both integer and floating-point operands.
5. False, because Multiplication (\*), division (/), and modulus (%) have a higher precedence than addition (+) and subtraction (-).

Exercise 2.4

1. If (c < 7) {

System.out.println("c is less than 7");

}

1. If (c => 7) {

System.out.println("c is equal to or greater than 7");

}

Exercise 2.7

1. Comments
2. If statement
3. Assignment
4. Division and Modulus
5. Innermost
6. Variable

Exercise 2.8

1. System.out.print(“Enter an integer: “);
2. a = b \* c;
3. // This program performs a sample payroll calculation

Exercise 2.9

1. True
2. True
3. False: Wile java evaluates expressions from left to right, it follows operator precedence. For example, in 2 + 3 \* 4, multiplication is done first due to higher precedence, so it evaluates as 2 + 12 = 14, not (2 + 3) \* 4.
4. True, all are invalid apart from ‘h22’.

Exercise 2.10

1. X = 2
2. Value of 2 + 2 is 4
3. X = 5 = 5

Exercise 2.11

1. The statement assigns a new value to p, modifying it.
2. This is just a print statement , it does not modify any variables
3. Thia is also a print statement, it does not modify the variable a.
4. This statement assigns a user-input values to value, modifying it.

Exercise 2.12

1. Correct
2. Incorrect
3. Incorrect
4. Correct
5. Correct
6. Incorrect

Exercise 2.13

1. x = 7 + 3 \* 6 / 2 – 1;

Operator precedence order:

1. Multiplication (3 \* 6 = 18)
2. Division (18 / 2 = 9)
3. Addition (7 + 9 = 16)
4. Subtraction (16 – 1 = 15)

X = 15

1. x = 2 % 2 + 2 \* 2 - 2 / 2;

Operator precedence order:

1. Modulus (2 % 2 = 0)
2. Multiplication (2 \* 2 = 4)
3. Division (2 / 2 = 1)
4. Addition (0 + 4 = 4)
5. Subtraction (4 – 1 = 3)

X = 3

1. x=(3 \* 9 \* (3 + (9 \* 3 / (3))));

Operator precedence order:

1. Parenthesis:

(9 \* 3 / (3)) = 27 / 3 = 9

(3 + 9) = 12

1. Multiplication:

3 \* 9 = 27

27 \* 12 = 324

X = 324

Exercise 2.14

1. System.out.println(“1 2 3 4”);
2. System.out.print(“1 “);

System.out.print(“2 “);

System.out.print(“3 “);

System.out.print(“4 “);

1. System.out.printf(“%d %d %d %d”, 1, 2, 3, 4);