|  | Initials |
| --- | --- |
| **Exercise 2.18** To what class does the following constructor belong?  **public Student(String name)** |  |
| **Exercise 2.19** How many parameters does the following constructor have, and what are their types?  **public Book(String title, double price)** |  |
| **Exercise 2.20** Can you guess what types some of the **Book** class’s fields might be, from the parameters in its constructor? Can you assume anything about the names of its fields? |  |
| **Exercise 2.21** Suppose that the class **Pet** has a field called **name** that is of type **String**.  Write an assignment statement in the body of the following constructor so that the **name** field  will be initialized with the value of the constructor’s parameter.  **public Pet(String petsName)**  **{**  **}** |  |
| **Exercise 2.22** *Challenge exercise* The following object creation will result in the constructor of the **Date** class being called. Can you write the constructor’s header?  **new Date("March", 23, 1861)**  Try to give meaningful names to the parameters. |  |
| **Exercise 2.23** Compare the header and body of the **getBalance** method with the header and body of the **getPrice** method. What are the differences between them? |  |
| **Exercise 2.24** If a call to **getPrice** can be characterized as “What do tickets cost?” how would you characterize a call to **getBalance**? |  |
| **Exercise 2.25** If the name of **getBalance** is changed to **getAmount**, does the return statement in the body of the method also need to be changed for the code to compile? Try it out within BlueJ. What does this tell you about the name of an accessor method and the name of the field associated with it? |  |
| **Exercise 2.26** Write an accessor method **getTotal** in the **TicketMachine** class. The new method should return the value of the **total** field. |  |
| **Exercise 2.27** Try removing the return statement from the body of **getPrice**. What error message do you see now when you try compiling the class? |  |
| **Exercise 2.28** Compare the method headers of **getPrice** and **printTicket** in Code 2.1. Apart from their names, what is the main difference between them? |  |
| **Exercise 2.29** Do the **insertMoney** and **printTicket** methods have return statements? Why do you think this might be? Do you notice anything about their headers that might suggest why they do not require return statements? |  |
| **Exercise 2.30** Create a ticket machine with a ticket price of your choosing. Before doing anything else, call the **getBalance** method on it. Now call the **insertMoney** method (Code 2.6) and give a non-zero positive amount of money as the actual parameter. Now call **getBalance** again. The two calls to **getBalance** should show different outputs, because the call to **insertMoney** had the effect of changing the machine’s state via its **balance** field. |  |
| **Exercise 2.31** How can we tell from just its header that **setPrice** is a method and not a constructor?  **public void setPrice(int cost)** |  |
| **Exercise 2.32** Complete the body of the **setPrice** method so that it assigns the value of  its parameter to the **price** field. |  |
| **Exercise 2.33** Complete the body of the following method, whose purpose is to add the value of its parameter to a field named **score**.  **/\*\***  **\* Increase score by the given number of points.**  **\*/**  **public void increase(int points)**  **{**  **}** |  |
| **Exercise 2.34** Is the increase method a mutator? If so, how could you demonstrate this? |  |
| **Exercise 2.35** Complete the following method, whose purpose is to subtract the value of its parameter from a field named **price**.  **/\*\***  **\* Reduce price by the given amount.**  **\*/**  **public void discount(int amount)**  **{**  **}** |  |