

```

public class Foo {
    private Bar _bar;
    public Foo() {
        _bar = new Bar();
    }
    public void fooBar() {
        _bar.moveForward(25);
    }
}

```

1. Use the class definition above to circle and identify the parts of code from the list given in parts a – j.

- a) Keyword that tells us we are creating a class definition - **class**
- b) The name of the class - **Foo**
- c) Return type of a method - **void**
- d) Name of a method - **fooBar**
- e) Parameter list - **() in either the constructor or fooBar method**
- f) Name of a constructor - **Foo**
- g) Parameter list of a constructor – see green highlight
- h) Method call – **_bar.moveForward(25);**
- i) Argument list – see blue highlight
- j) Instance variable declaration – see orange highlight

2. Based on this method definition, answer parts a –d.

```

public School getSchool() {
}

```

- a) Which of the following is the name of the method?
 - public
 - School
 - getSchool
 - ()
 - {}
- b) Which of the following is the parameter list of the method?
 - public
 - School
 - getSchool

- ()
 - {}
- c) Which of the following is the body of the method?
- public
 - School
 - getSchool
 - ()
 - {}
- d) Which of the following is the return type of the method?
- public
 - School
 - getSchool
 - ()
 - {}

3. If a class is named Can, what is the name of the class' constructor? **Can**

4. Will the constructor of class Can have a return type? If Yes, what is the constructor's return type?

Constructors do not have a return type.

5. What is an instance variable and why do we need it?

An instance variable is a variable that is a class-level variable. It allows us to access and keep information that will be important to the entire class. Variables declared inside of methods can only be used inside of the method they are declared in, so if more than one method from a class wants to use the same variable, we need to make it an instance variable.

6. What is the purpose of the words public and private in the class definition? What is the difference between the words?

Public and private are access control modifiers, they control access to different pieces of the program. Public means that anyone has access to that part of the program. Private means that the part of the program is only accessible to other things within the same class.

7. Write the definition for a class named Test. You can leave the body of the class definition blank.

```
public class Test {  
  
}
```

8. Write the code that would create an instance of the class Test.

```
new Test();
```

9. Write the method definition for a method named takeTest that takes as a parameter a Question object and does not return anything. You can leave the body of the method blank.

```
public void takeTest (Question q) {  
  
}
```

10. Write the method definition for a method named turtleColorChange that has a void return type and takes as parameters a Turtle and a color. The method will change the color of the turtle to be the color passed in as a parameter.

```
public void turtleColorChange(Turtle t, java.awt.Color color) {  
  
    t.setColor(color);  
  
}
```

11. Write the code that would call the method turtleColorChange with whatever parameters you'd like.

```
turtleColorChange(new Turtle(), java.awt.Color.GREEN);
```

12. Write the method definition for a method named moveTurtle that takes as parameters a Turtle object and a distance and moves the turtle forward the distance specified.

```
public void moveTurtle(Turtle t, int distance) {  
  
    t.forward(distance);  
  
}
```

13. Write the code that would call the method moveTurtle with whatever parameters you'd like.

```
moveTurtle(tommy, 4);
```

14. Use the code for the for-loop below to answer parts a –f.

```
for(int count = 0; count < 10; count++) {  
  
    System.out.println(count+1);  
  
}
```

a) Which part of this code is the part that we are trying to repeat? (i.e. the part we are executing over and over)

```
System.out.println(count+1);
```

b) Circle and identify the **increment part of this loop**.

c) Circle and identify the **initialization part of this loop**.

d) Circle and identify the **loop body part of this loop**.

e) Circle and identify the **boolean expression part of this loop**.

f) How many times would this loop execute?

10 times

15. Write a loop that would print out all the even numbers from 1 to 100.

```
for(int count = 2; count < 101; count = count + 2) {  
    System.out.println(count);  
}
```

16. Write a loop that will sum the first 20 integers.

```
int sum = 0;  
for(int count = 1; count < 21; count++) {  
    sum = sum + count;  
}
```

17. Which of the following would be the correct choice to fill in the blank in the code to make this loop execute 5 times?

```
for (int count = 1; _____; count++) {  
    //some code for loop  
}
```

- a) count < 5
- b) count <= 5
- c) count < 6
- d) count <= 6

18. What is the correct output of the following loop?

```
for(int count = 0; count < 5; count++) {  
    System.out.println("Printing something to the screen");  
}
```

a)

Printing something to the screen
Printing something to the screen
Printing something to the screen
Printing something to the screen
Printing something to the screen

b)

Printing something to the screen
Printing something to the screen
Printing something to the screen
Printing something to the screen

c)

Printing something to the screen
Printing something to the screen
Printing something to the screen
Printing something to the screen
Printing something to the screen
Printing something to the screen

d)

Printing something to the screen
5