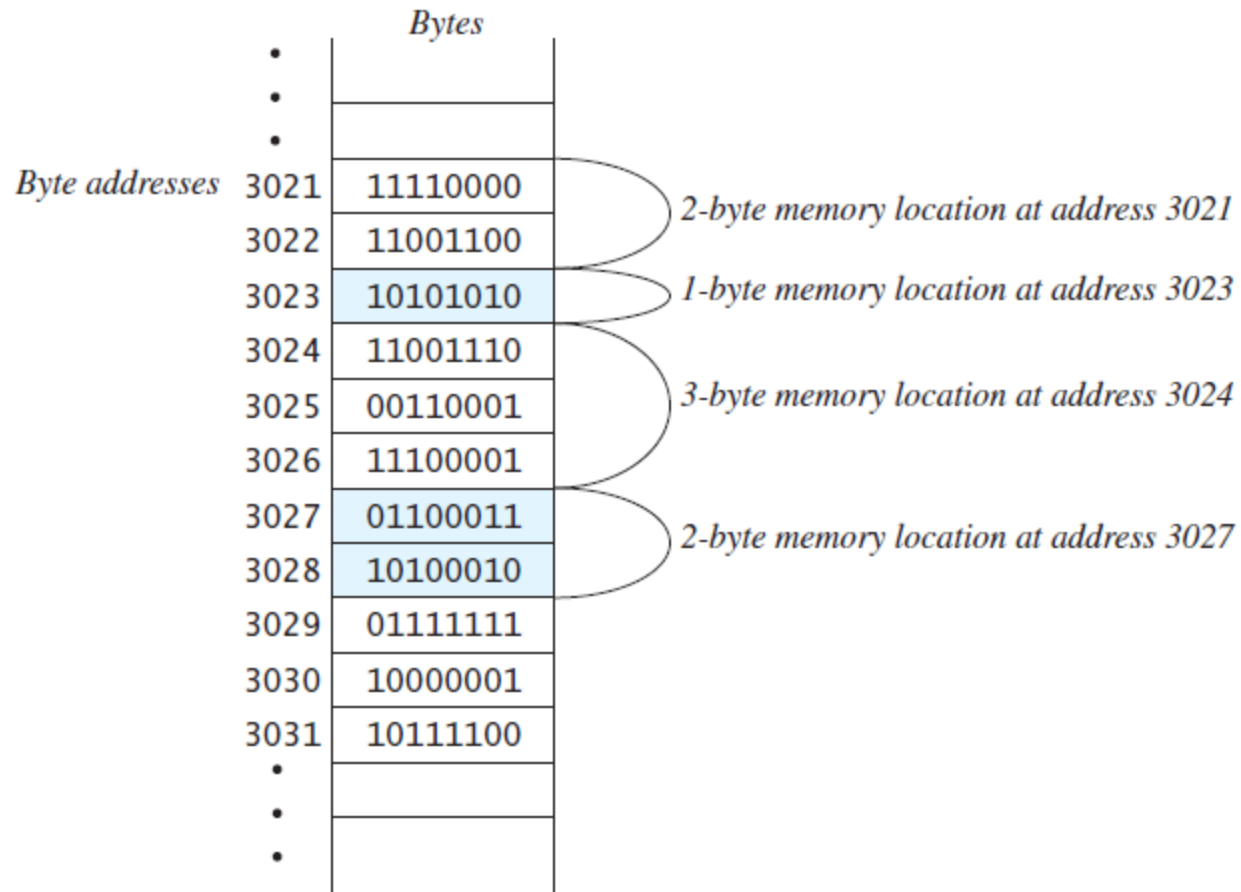


# Introduction to Computers and Java **1**

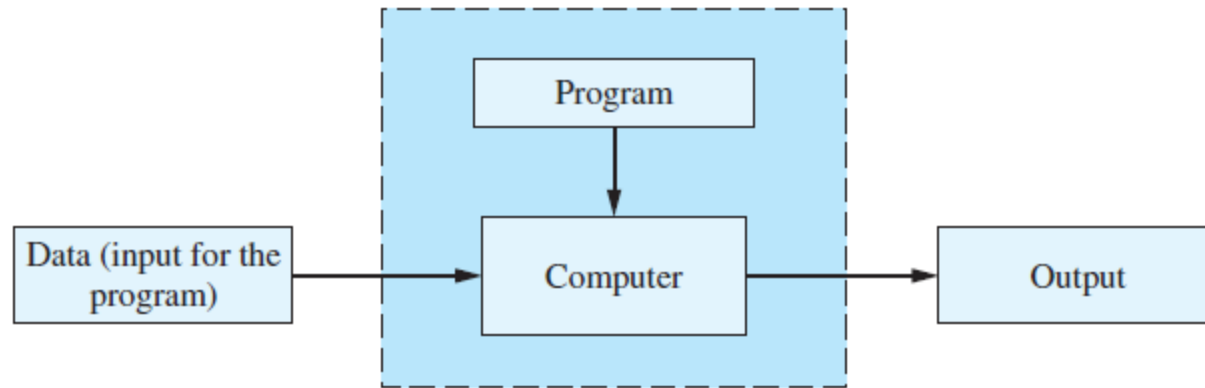
**FIGURE 1.1 Main Memory**

---

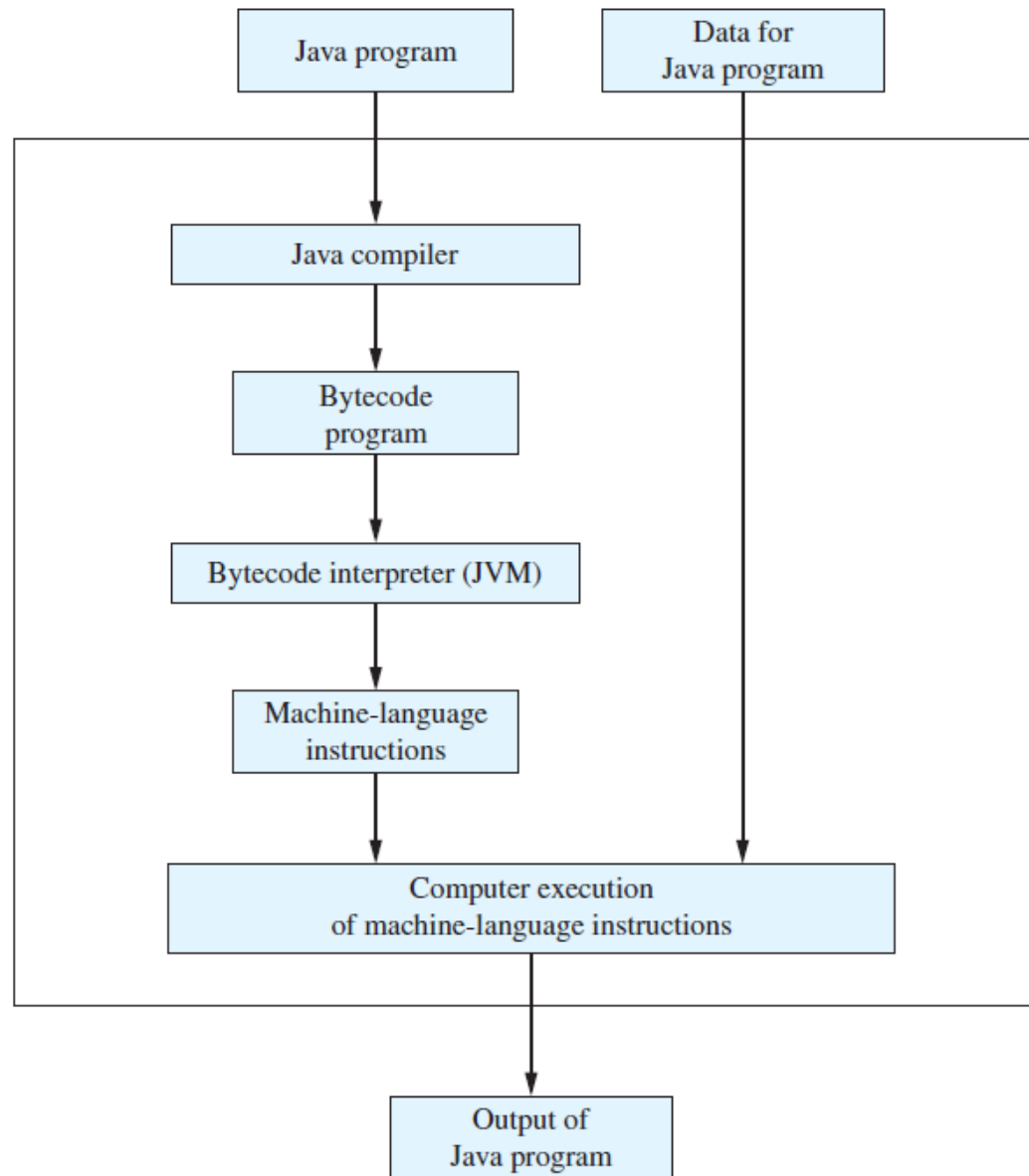


**FIGURE 1.2** Running a Program

---



**FIGURE 1.3** Compiling and Running a Java Program



## LISTING 1.1 A Sample Java Program

---

```
import java.util.Scanner;
public class FirstProgram
{
    public static void main(String[] args)
    {
        System.out.println("Hello out there.");
        System.out.println("I will add two numbers for you.");
        System.out.println("Enter two whole numbers on a line:");

        int n1, n2;

        Scanner keyboard = new Scanner(System.in);

        n1 = keyboard.nextInt();
        n2 = keyboard.nextInt();

        System.out.println("The sum of those two numbers is");
        System.out.println(n1 + n2);
    }
}
```

*Gets the Scanner class from the package (library) java.util*

*Name of the class—your choice*

*Sends output to screen*

*Says that n1 and n2 are variables that hold integers (whole numbers)*

*Reads the program for keyboard input*

*Reads one whole number from the keyboard*

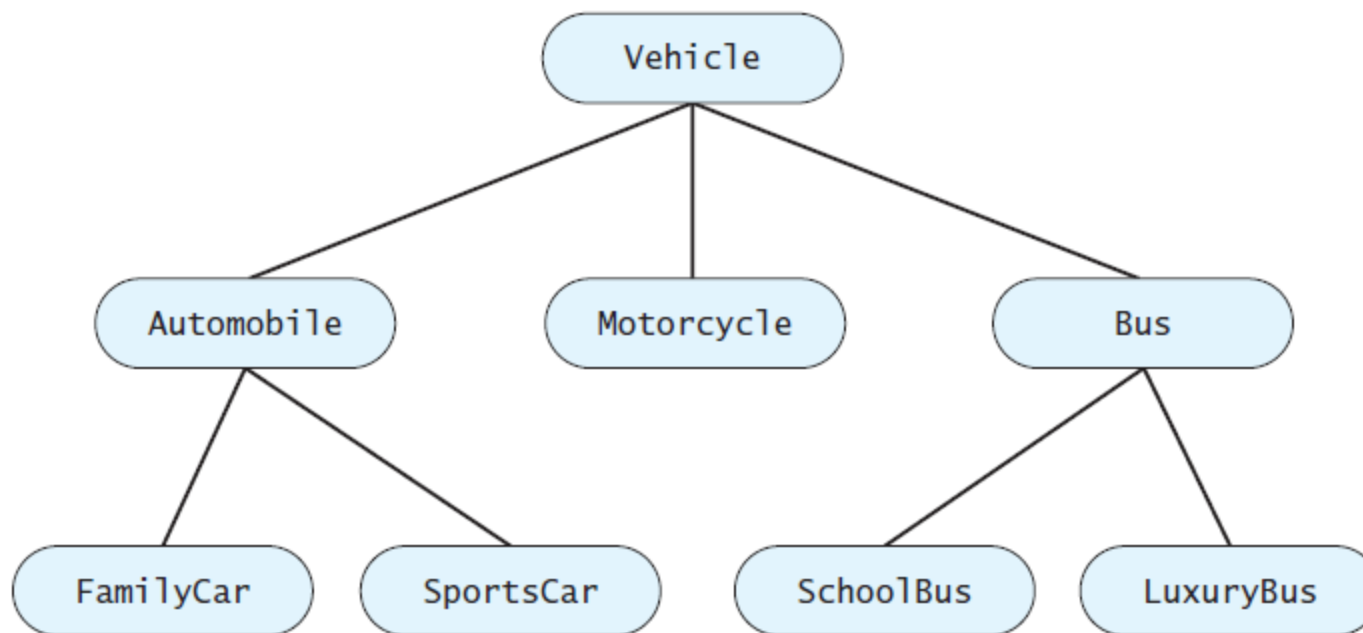
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### Sample Screen Output

```
Hello out there.
I will add two numbers for you.
Enter two whole numbers on a line:
12 30
The sum of those two numbers is
42
```

**FIGURE 1.4** An Inheritance Hierarchy

---



**FIGURE 1.5** The Documentation for the Class Scanner

The screenshot shows the Java Platform Standard Ed. 7 DRAFT ea-b97 documentation for the Class Scanner. The left sidebar contains a list of packages and classes, with 'Scanner' selected. The main content area shows the class signature, implemented interfaces, and a description of the class.

*Package names* →

*Class names (we clicked on Scanner)* →

*Description of the class Scanner* →

Java™ Platform  
Standard Ed. 7  
DRAFT ea-b97

All Classes

Packages  
java.applet

java.util

Class Scanner

java.lang.Object  
└ java.util.Scanner

All Implemented Interfaces:  
Iterator<String>

public final class Scanner  
extends Object  
implements Iterator<String>

A simple text scanner which can parse primitive types and strings using regular expressions.

A Scanner breaks its input into tokens using a delimiter pattern, which by default matches whitespace. The resulting tokens may then be converted into values of different types using the various next methods.

For example, this code allows a user to read a number from System.in:

```
Scanner sc = new Scanner(System.in);  
int i = sc.nextInt();
```

## LISTING 1.2 Drawing a Happy Face

---

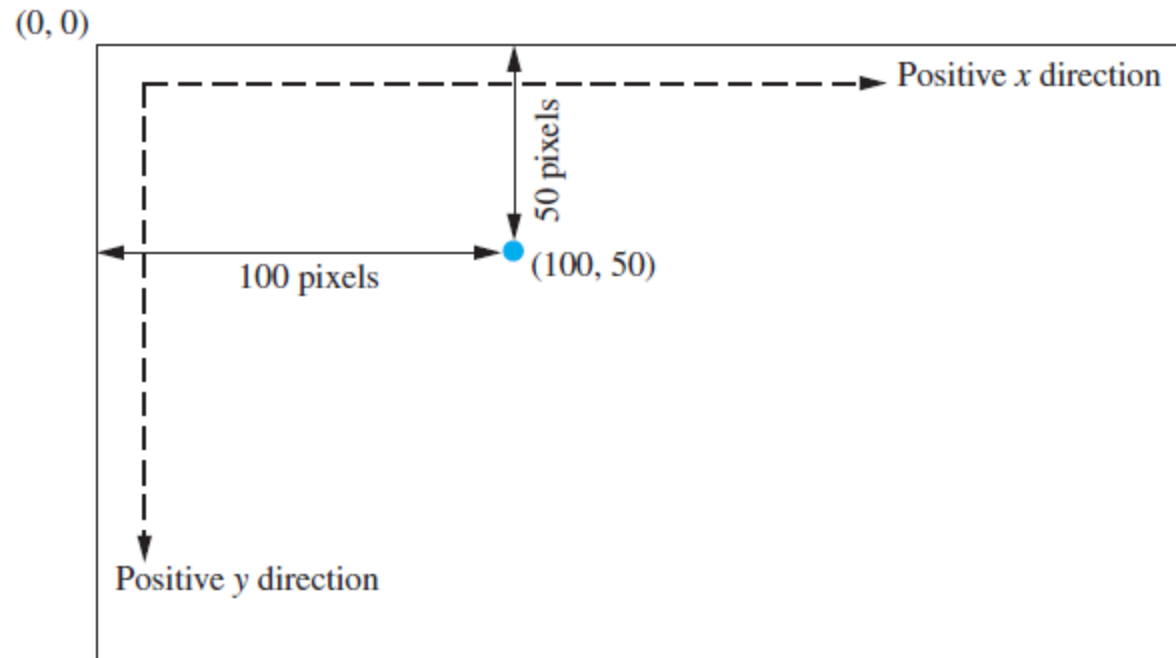
```
import javax.swing.JApplet;  
import java.awt.Graphics;  
public class HappyFace extends JApplet  
{  
    public void paint(Graphics canvas)  
    {  
        canvas.drawOval(100, 50, 200, 200);  
        canvas.fillOval(155, 100, 10, 20);  
        canvas.fillOval(230, 100, 10, 20);  
        canvas.drawArc(150, 160, 100, 50, 180, 180);  
    }  
}
```

Applet Output



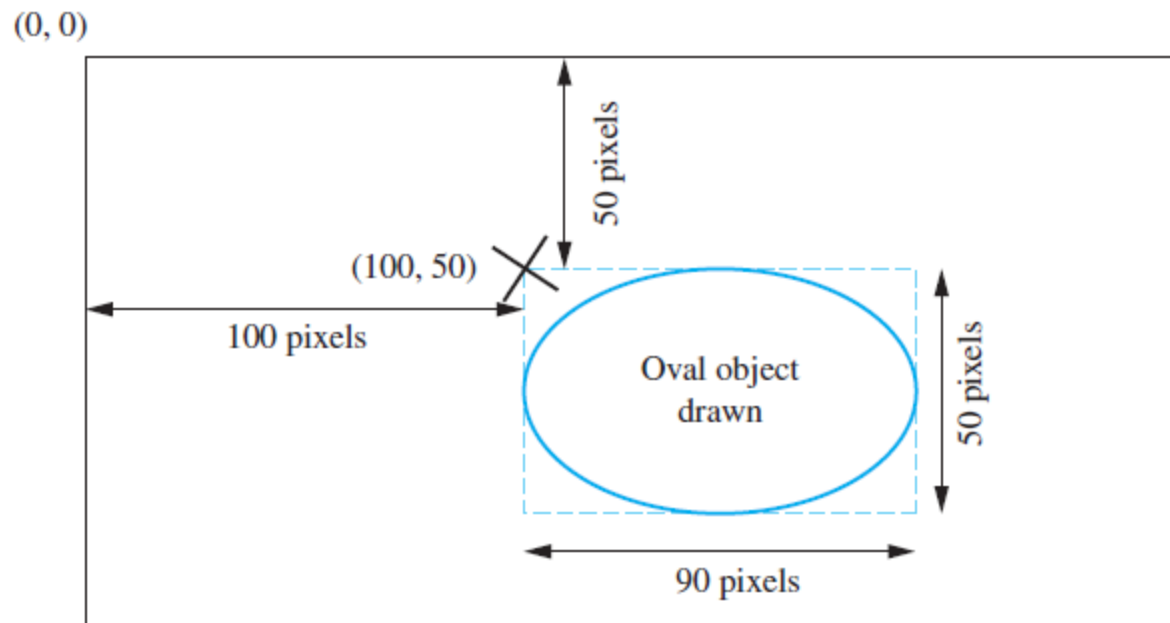


**FIGURE 1.6** Screen Coordinate System

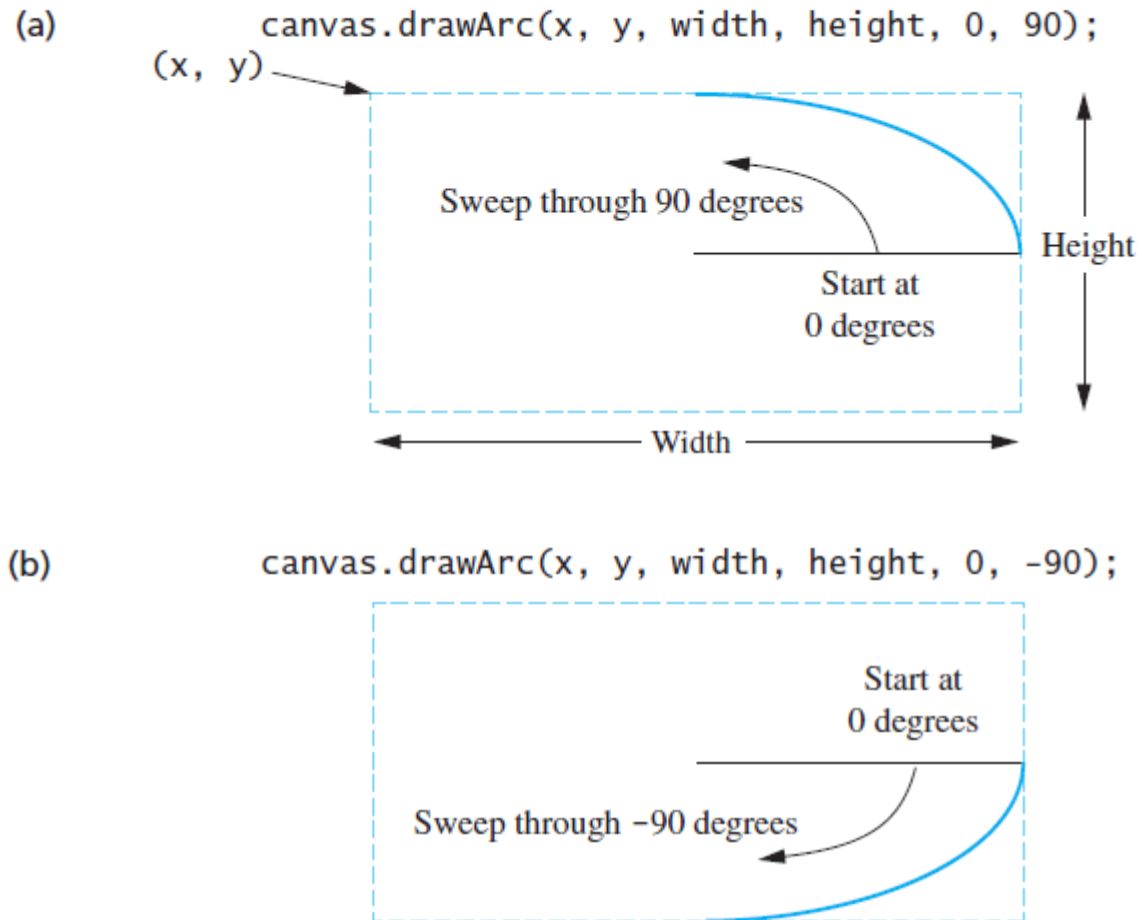


**FIGURE 1.7** The Oval Drawn by `canvas.drawOval(100, 50, 90, 50)`

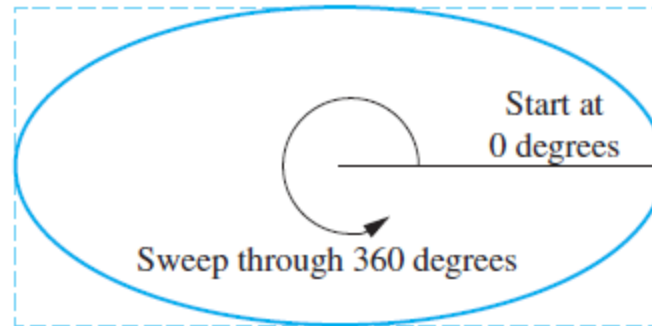
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**FIGURE 1.8 Specifying an Arc**



(c) `canvas.drawArc(x, y, width, height, 0, 360);`



(d) `canvas.drawArc(x, y, width, height, 180, 180);`

