ORACLE ACADEMY

Section 5 Lesson 1: Using Scanner and Conditional Statements

Try It: Practice Activities

Objectives

- Use Scanner for user input during program execution
- Use if-else logic and statements
- Apply switch logic and statements in Java code
- Use break and default effectively in a switch statement
- Use the ternary operator

Vocabulary

Identify the vocabulary word for each definition below.

	A shorthand form of an if/else statement.
	A Java class used for reading keyboard or file input during program execution.
	A type of program control that allows different segments of code to execute when the input value matches a given condition.
	A type of program control that allows different segments of code to execute when the input value matches a given condition.

Try It/Solve It

1.Using a ternary operator, write an if/else statement that will return true or false if the variable x is less than or equal to 7.

2. Write a program that prompts the user to enter two floating point (double) numbers and an operator (*, +, /, %, -). Print the results of the given operation. For reading the command line, use the Scanner class. Write the program first using switch logic, then re-write the program using if/else logic.

3.True of False: IF/ELSE statements can always be replaced with SWITCH statements.

4. Write a Java program to do the following that determines your weight on another planet. The program should ask for the user's weight on Earth, then present a menu of the other planets in our solar system. The user should choose one of the planets from the menu. The program should display the phrase like the following: “Your weight on Mars is 55 lbs.” Use the following conversion factors:

Planet	Conversion factor (multiply your Earth weight by this number

	to determine your weight on this planet)
Mercury	0.38
Venus	0.91
Mars.	0.38
Jupiter	2.36
Saturn	0.92
Uranus	0.89
Neptune	1.13

5.A program that will decide if a student gets into Mountville University. Students must have one of the following criteria:

- been a valedictorian or salutatorian of a school of 1400 or more
- had a gpa of 4.0 or better and a SAT score of 1100 or more
- had a gpa of 3.5 or better and an SAT score of 1300 or more
- had a gpa of 3.0 or better and an SAT score of 1500 or more

6. A professor in college will allow a student to be excused from the final exam if either of the following is true:

- They have a 90% average or higher in the class and have missed 3 or less class lectures.
- They have a 80% average or higher in the class and have not missed any class lectures.

The program below will determine whether a student can get out of the exam or not. Rewrite the program so only one if statement is used.

```
import java.util.Scanner;
public class FinalExam{

  public static void main(String[] args)
  {
     double average;
     int daysAbsent;
     boolean exempt=false;

     Scanner reader= new Scanner(System.in);
     System.out.println("This program will determine if you can get
out of the final exam.");
     System.out.println("Please answer the following questions.");

     System.out.println("What is your average in the class?");
```

```
     average=reader.nextDouble();

     System.out.println("How class lectures have you missed?");
     daysAbsent=reader.nextInt();

     if(average>=90)
     {
          if(daysAbsent<=3)
               exempt=true;
     }
     else
          if(average>=80)
          {
               if(daysAbsent<=0)
                    exempt=true;
          }

     if(exempt)
          System.out.println("Congratulations!  You are exempt from
the final exam.");
     else
          System.out.println("You are not exempt from the final
exam.");

  }//end of main

}//end of class
```

7. Write a program that calculates the number of buckets of paint to use for a room and the optimal number of cans to purchase.

You need to ask the height of the room and the length and width of the room. The room is rectangular. You must paint the walls and the ceiling but not the floor. There are no windows or skylights. You can purchase the following size buckets of paint.

5-liter bucket costs $15 each and covers 1500 square feet.

1-liter bucket costs $4 and covers 300 square feet.