Chapter 3 Programming Exercises

Create a program, CH3ProgrammingExercises.java, that will complete the following:

// boolean variables

Write the following concepts into Java boolean assignment statements:

* 1. To graduate, your GPA must be 2.0 or higher
  2. To vote, you must be at least 18
  3. To drink alcohol, you must be 21 or older
  4. To go on Medicare, you must be 65
  5. To drive, you must be 16 or older
  6. To be a lawyer, you must pass the bar
  7. To sell insurance, you must have a license

// sorting numbers

Ask the user for 3 numbers

Sort three numbers and display them from highest to lowest

// Go Jacks!

Prompt the user to enter an integer score for the home team, storing their answer in a variable named home.

Prompt the user to enter an integer score for the visitor team, storing their answer in a variable named visitor.

Write a statement that will print the words "SFA wins! Go Jacks!" if they beat the visitor, or "next time – Axe 'em Jacks!" when the they lose.

// Hi Lo Card Game

In this hi lo game, there are two players, one is the user, the other is the computer. Each player is “dealt” a card, the winner is the player with the highest value (number).

Computer hand: Deal a card by generating a random number from 1 to 13

Player hand: Have the user pick a card by generating a random number from 1 -13

Write the statements the will inform who won the hand (don’t forget about ties!)

// degree plan – graduation

Ask the user for how many hours they have earned

Inform the user, based on their hours that will print out “file for graduation & degree audit” when hours are more than 95 and “file your degree plan” when the hours are 30 or more.

// gas tank

Ask the user for how much fuel is in their gas tank

Inform the user, based on their tank level, that will print out “refill” when tank is less than or equal to .2, “start looking for a gas station” when tank is less than .4 but more than .2, otherwise it should print out “you are good to go!”

//pick 4 Lottery

Generate 4 random numbers, 0 to 9 inclusive, to be your quick pick. Then check if your numbers are the winning numbers – in order. Use 1, 3, 5, 8 as the winning numbers.

// course titles

Ask the user for a course number

Display the course title based on that number

|  |  |
| --- | --- |
| courseNumber | courseName |
| 1300 | Introduction to Problem Solving |
| 1301 | Introduction to Computing |
| 1302 | Computer Science Principles |
| 2301 | Introduction to Information Technology |
| 2302 | Computer Programming Principles |

// letter grade

|  |  |
| --- | --- |
| grade | points |
| A | 1000 - 900 |
| B | 899 - 800 |
| C | 799 - 700 |
| D | 699 - 600 |
| F | 599 - 0 |

You want to be able to know how many points you need to earn to get the letter grade you want; use the table below to complete this problem.

Ask the user the desired letter grade for the course

Display what is needed to be earned based on that grade