```java
// Lab05.

import java.util.Scanner;

public class FederalTaxRate {

    public static void main(String args[]) {

        // Construct a Scanner for user input
        Scanner scan = new Scanner(System.in);
        System.out.println("Which marital status best describes you: Married or Single?");
        String inputtedMaritalStatus = scan.nextLine();
        String letterStatus = inputtedMaritalStatus.substring(0, 1).toLowerCase();

        System.out.println("What is your annual income?");
        double income = scan.nextDouble();
        scan.close();

        double tax = calculateTax(letterStatus, income);
        if(tax>=0) {
            System.out.println("You must pay " + tax + " in federal income taxes.");
        }
    }

    /**
     * Calculate the federal tax based on a given marital status and yearly income (USD)
     * @param maritalStatus "s" for single, or "m" for married
     * @param income the yearly income in USD
     * @return the amount of federal tax in USD or -1 if an error occurred
     */
    public static double calculateTax(String maritalStatus, double income) {

        double tax = 0.0;

        // Check for negative income
        if (income < 0)  return -1;  // Decide on a sentinel value; I'll use -1

        else if (maritalStatus.equals("s")) {
          // Assign the variable tax according to Schedule X
            if (income >= 0.0 && income <= 11600.0) tax = income * 0.1;
            else if (income > 11600.0 && income <= 47150.0) tax = (0.12 * (income-11600.0)) + 1160.0;
            else if (income > 47150.0 && income <= 100525.0) tax = (0.22 * (income-47150.0)) + 5426.0;
            else if (income > 100525.0 && income <= 191950.0) tax = (0.24 * (income-100525.0)) + 17168.5;
            else if (income > 191950.0 && income <= 243725.0) tax = (0.32 * (income-191950.0)) + 39110.5;
            else if (income > 243725.0 && income <= 609350.0) tax = (0.35 * (income-243725.0)) + 55678.5;
            else if (income > 609350.0) tax = (0.37 * (income-609350.0)) + 183647.25;
        }
        else if (maritalStatus.equals("m")) {
          // Assign the variable tax according to Schedule Y-1
            if (income >= 0.0 && income <= 23200.0) tax = income * 0.1;
            else if (income > 23200.0 && income <= 94300.0) tax = (0.12 * (income-23200.0)) + 2320.0;
            else if (income > 94300.0 && income <= 201050.0) tax = (0.22 * (income-94300.0)) + 10852.0;
            else if (income > 201050.0 && income <= 383900.0) tax = (0.24 * (income-201050.0)) + 34337.0;
            else if (income > 383900.0 && income <= 487450.0) tax = (0.32 * (income-383900.0)) + 78221.0;
            else if (income > 487450.0 && income <= 731200.0) tax = (0.35 * (income-487450.0)) + 111357.0;
            else if (income > 731200.0) tax = (0.37 * (income - 731200.0)) + 196669.50;
        }
        else {
            System.out.println("ERROR:  No tax table found.");
            return -1;  // Decide on a sentinel value; I'll use -1
        }
        // Round tax to the nearest penny and return the value of tax
        tax = Math.round(tax * 100)/100.0;
        return tax;
    }
}
```