Haircut Price Problem Statement

Many salons charge different prices for male and female haircuts. They also charge differently based on age. Write a program which charges:

- males 13 years old or younger: $10.00
- females 13 years old or younger: $15.00
- males older than 13: $25.00
- females older than 13: $35.00
import java.util.Scanner;

public class Haircut {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);

        //get information from user
        System.out.println("Welcome to the Haircut Price Calculator!\n");
        System.out.print("Enter 1 if you are a woman and 2 if you are a man: \n");
        int gender = in.nextInt();
        System.out.print("Enter your age as an integer: \n");
        int age = in.nextInt();

        double price = 0;

        if(gender == 1 && age <= 13) { //female and younger than 13
            price = 15.00;
        }
        if(gender == 1 && age > 13) { //female and older than 13
            price = 35.00;
        }
        if(gender == 2 && age <= 13) { //male and younger than 13
            price = 10.00;
        }
        if (gender == 2 && age > 13) { //male and older than 13
            price = 25.00;
        }

        System.out.println("Your haircut will cost $" + price);
    }
}
First Attempt Analysis

- **Good attempt**
  - Syntactically and logically correct, but...

- **Could be better**
  - Unneeded comparisons/computations
  - Person should fall into one and only one pricing category.
  - Why do extra work?
```java
import java.util.Scanner;

public class Haircut {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);

        // get information from user
        System.out.println("Welcome to the Haircut Price Calculator!\n");        System.out.print("Enter 1 if you are a woman and 2 if you are a man: ");
        int gender = in.nextInt();
        System.out.print("Enter your age as an integer: ");
        int age = in.nextInt();

        double price = 0;

        if (gender == 1 && age <= 13) {     // female and younger than 13
            price = 15.00;
        }

        if (gender == 1 && age > 13) {      // female and older than 13
            price = 35.00;
        }

        if (gender == 2 && age <= 13) {     // male and younger than 13
            price = 10.00;
        }

        if (gender == 2 && age > 13) {      // male and older than 13
            price = 25.00;
        }

        System.out.println("Your haircut will cost "+ price);
    }
}
```
```
import java.util.Scanner;

public class Haircut {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);

        // get information from user
        System.out.println("Welcome to the Haircut Price Calculator!");
        System.out.print("Enter 1 if you are a woman and 2 if you are a man: ");
        int gender = in.nextInt();
        System.out.print("Enter your age as an integer: ");
        int age = in.nextInt();

        double price = 0;

        if (gender == 1 && age <= 13) {  // female and younger than 13
            price = 15.00;
        } else if (gender == 1 && age > 13) {  // female and older than 13
            price = 35.00;
        } else if (gender == 2 && age <= 13) {  // male and younger than 13
            price = 10.00;
        } else {  // male and older than 13
            price = 25.00;
        }

        System.out.println("Your haircut will cost $" + price);
    }
}
```
Second Attempt Analysis

• Good attempt
  – Syntactically and logically correct, but...

• Could be better
  – What happens if person enters 3 for gender?
    • How much will they be charged?
    • How much should they be charged?
import java.util.Scanner;

public class Haircut {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);

        //get information from user
        System.out.println("Welcome to the Haircut Price Calculator!");
        System.out.print("Enter 1 if you are a woman and 2 if you are a man: ");
        int gender = in.nextInt();
        System.out.print("Enter your age as an integer: ");
        int age = in.nextInt();

        double price = 0;

        if(gender == 1 && age <= 13) {  //female and younger than 13
            price = 15.00;
        } else if(gender == 1 && age > 13) {  //female and older than 13
            price = 35.00;
        } else if(gender == 2 && age <= 13) {  //male and younger than 13
            price = 10.00;
        } else {  //male and older than 13
            price = 25.00;
        }

        System.out.println("Your haircut will cost $" + price);
    }
}
Third (and Best!) Attempt

```java
import java.util.Scanner;

public class Haircut {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);

        //get information from user
        System.out.println("Welcome to the Haircut Price Calculator!");
        System.out.print("Enter 1 if you are a woman and 2 if you are a man: ");
        int gender = in.nextInt();
        System.out.print("Enter your age as an integer: ");
        int age = in.nextInt();

        double price = 0;

        if (gender == 1 && age <= 13) { //female and younger than 13
            price = 15.00;
        } else if (gender == 1 && age > 13) { //female and older than 13
            price = 35.00;
        } else if (gender == 2 && age <= 13) { //male and younger than 13
            price = 10.00;
        } else if (gender == 2 && age > 13) { //male and older than 13
            price = 25.00;
        } else { //ERROR
            price = -1.0;
        }

        System.out.println("You entered data incorrectly. Try again.");
    }

    System.out.println("Your haircut will cost "+ price);
}
```