EJERCICIOS 2

The Objective of the exercises is to verify the learning about the logic operations and the if, if-else, if-else if-else.

Instructions:

Create a new project called **Exercises2**, and then code in their own class the next exercises. Remember to use Scanner to request numbers to the user.

```java
Scanner sc = new Scanner(System.in);
System.out.println("Please introduce your age: ");
int age = sc.nextInt(); //use it to get Integer value
sc.nextLine(); // Use it get all the String line in the terminal
sc.nextDouble(); //Use it to get the double value
char c = sc.next().charAt(1); //Use this line to get only 1 character and store it in char
```

1. **Age Checker:** Write a program that asks the user for their age. If the age is 18 or older, print "You are eligible to vote." Otherwise, print "You are not eligible to vote." (Uses `if`)

2. **Number Guessing Game (Simple):** Generate a random number between 1 and 10. Ask the user to guess the number. If the guess is correct, print "Congratulations, you guessed it!". Otherwise, print "Sorry, try again." (Uses `if-else`).

   Use this snippet to generate the random Number between 1 and 10:

   ```java
   Random random = new Random();
   int randomNumber = random.nextInt(10 - 1 + 1) + 1;
   ```

3. **Number Sign Detector:** Write a program that asks the user for a number. If the number is positive, print "The number is positive." If the number is negative, print "The number is negative." Otherwise, print "The number is zero." (Uses `if-else if-else`)

4. **Movie Rating Discount:** Ask the user for their age and the movie rating (G, PG, PG-13, R). If the user is under 13 and the rating is PG-13 or R, print "You are not allowed to watch this movie." Otherwise, if the user is 65 or older, apply a 10% discount to the ticket price. Print the final price.

5. **Leap Year Checker:** Write a program that asks the user for a year. If the year is divisible by 4 and not divisible by 100, or if the year is divisible by 400, print "The year is a leap year." Otherwise, print "The year is not a leap year." (Uses nested `if` statements)

6. **Vowel Checker:** Ask the user for a character. If the character is a vowel (a, e, i, o, u), print "The character is a vowel." Otherwise, print "The character is a consonant."

7. **Grade Calculator:** Ask the user for their exam score. Use a series of `if-else if-else` statements to assign letter grades based on the following ranges: A (90-100), B (80-89), C (70-79), D (60-69), F (below 60). Print the letter grade.

8. **Triangle Type Checker:** Ask the user for the lengths of three sides of a triangle. Check if the sides form a valid triangle (sum of any two sides must be greater than the third side). If it's a valid triangle, use `if-else if-else` statements to determine if it's equilateral (all sides equal), isosceles (two sides equal), or scalene (all sides different). Print the triangle type.

9. **Menu System:** Create a simple menu program with three options (1. Option 1, 2. Option 2, 3. Exit). Use `if-else if-else` statements to handle user choices. For each option, print a short message describing the chosen functionality.

10. **Mad Libs Generator:** Ask the user for a series of words (noun, verb, adjective, etc.). Use these words to fill in the blanks of a pre-written funny story template. Print the completed story with the user-provided words.