|  |  |
| --- | --- |
| **Project Report:** | Software Development |
| **Title:** | Lottery Game.java |
| **Lecturer:** | Julie Power |
| **Project Group:** | Elianny Arias x16125525 |
|  | Olga Minguett x16121856 |

**Requirements:**

Develop an application that would allow the user to play a lottery game.  The game should generate 5 random secret lottery numbers between 1 and 40.  Once the numbers have been chosen, the user should be permitted to enter up to three lines of 5 numbers each.  These numbers should then be compared to the secret lottery numbers one line at a time.

The program should output to the user, the amount of numbers per line that they guessed correctly.

For example, if the secret lottery numbers are 2, 4, 6, 7, 9 and the user guesses 1, 2, 3, 4, 5 on their first line, and 2, 4, 6, 8, 9 on their second line and 10, 20, 21, 22, 23 on their third line the program should output to the user: You guessed 2 numbers on line 1, 3 numbers on line 2 and 0 numbers on line 3.

**IPO:**

|  |  |  |
| --- | --- | --- |
| Input | Process | Output |
| User Numbers  Ticket Cost | **Lottery Numbers (Math.Random)**  **VerifyUserNumbers**  **(From 1-40)**  **(Shouldn’t be repeated per line)**  **VerifyMoney**  **(Entered by the user equals. 10€)**  **Count**  **(How many times the user has guessed a number per line)**  **Verify if the LotteryNumbers aren’t repeated**  **JOptionPane (To display information)** | **Lottery Numbers**  **User Numbers**  **Numbers Matched**  **Play Again Yes/No** |

The instantiable class fill an array automatically with 5 numbers between 1-40. We apply a constraint that the lottery array will never store a repeated number, and declare this array as an integer.

In the other hand, the app will ask the user to enter a number between 1-40 with an array 2D of 3 rows and 5 columns. The app will verify the data entered by the user to make that isn’t invalid information. Thus, the lottery array’s data type is integer, we had to parse it after the verification process. We set up a constraint to avoid repeated numbers per line in the userNumber array, then the instantiable class will compute how many times the user has guessed a number and will store the results in another array 1D of 3 indexes and send back the results to the app.

Finally, the app shows the lottery results to the user, the picked number from the user and how many times the user guessed a number per line, and then the app will ask the user if they want to keep playing. However, in other to play again, the new game will have a cost of 10€, so the user must enter a value equal to 10, so it will be verifying and the user can play again.

**Application:**

|  |  |  |
| --- | --- | --- |
|  | **Instantiable Class** | **App** |
| **Part1** | Olga Minguett | Olga Minguett |
|  |  | 1.1 Elian Arias |
| **Part2** | Olga Minguett | Olga Minguett |
|  |  | 2.1 Elian Arias |
| **Part3** | Elian Arias | Elian Arias |
| **Part4** | Olga Minguett | Elian Arias |