Project Title

This is a console game "Bulls & Cows" which can be executed and played with the use of C# .NET 5 compiler. The game has simple rules enough to quickly understand the main thing of it, take part in several rounds and win.

Getting Started

It is and instruction about executing console game on your local PC with the aim of testing the game and checking it for correctness.

For detailed information of software requirements, zip-archive unpacking, game process and tests read upcoming paragraphs!

Software requirements

One of the following OS:

-Apple macOS;

-Microsoft Windows;

-Linux Operating System.

Program to execute the game:

-Microsoft Visual Studio.

Zip-archive unpacking

Download zip-archive on your computer and open it. There you will find this "README.docx" file and directory "BullsAndCows" with C# .NET 5 solution containing "BullsAndCows.sln", "BullsAndCows.csproj", "Program.cs" files. Download everything on your computer, read this file and then execute the game.

Game process

Firstly, program greets user and asks to enter their name before telling the rules. User must enter his name using English lower or uppercase letters. Otherwise (if they enter symbols of Cyrillic alphabet, digits, slashes, compound words, etc.), an error will occur! Remember, it must be a one-word name but nothing more!

After user has entered correct name, there appears the second part of greeting which contains of the rules of the game (further a bit more extended version of them with developer's comments):

1) after program's requirement user enters an integer number from 1 to 10 from the keyboard - it is the length of number they are going to guess (if user enters not number from 1 to 10, occurs an error!);

2) computer automatically creates secret number with assigned length and asks user to enter it from the keyboard;

3) user enters the number and sees the result:

{number of} Bull, {number of} Cow = {string described below}...

"B (bull)" - they guessed the digit and its' position;

"C (cow)" - they guessed the digit but didn't guess its' position;

"0 (miss)" - they didn't guess digit at all, it is not in number;

”””IMPORTANT NOTES: correct user's number is number which

- is grosser (>) than 0;

- doesn't have different length from the secret number (incorrect example: length - 3, secret number - 123, user's number - 1234; correct example: length - 3, secret number - 123, user's number - 789);

- doesn't start with insignificant null (incorrect example 1: length - 3, secret number - 123, user's number - 0123; incorrect example 2: length - 3, secret number - 123, user's number - 023; correct example: length - 3, secret number - 123, user's number - 789);

- consists only of unique (different from each other) digits (incorrect example 1: length - 3, secret number - 123, user's number - 121; incorrect example 2: length - 3, secret number - 123, user's number - 111; correct example: length - 3, secret number - 123, user's number - 789).”””

4) also user should remember that every digit can't be used in number more than once (it was already mentioned in IMPORTANT NOTES);

5) number can't begin with "0" (it was also mentioned in IMPORTANT NOTES);

6) user guesses number until all digits wouldn't be the same as in secret number (until user's number is not equal to secret number).

After user read everything and is ready to start a game there automatically occurs inscription suggesting pressing "ENTER" button and starting a game. If user presses "ENTER", game starts. Otherwise, occurs an error telling incorrectness of pressed button and user is asked to repeat the action.

User plays game.

When user guessed number composed by computer, he is asked about repetition of the game or quitting from it. If user presses "ENTER", game repeats. If user presses "BACKSPACE", game ends. Otherwise, occurs message about incorrectness of pressed button.

Finally, when user quitted from the game, there is a thanksgiving and farewell message to them.

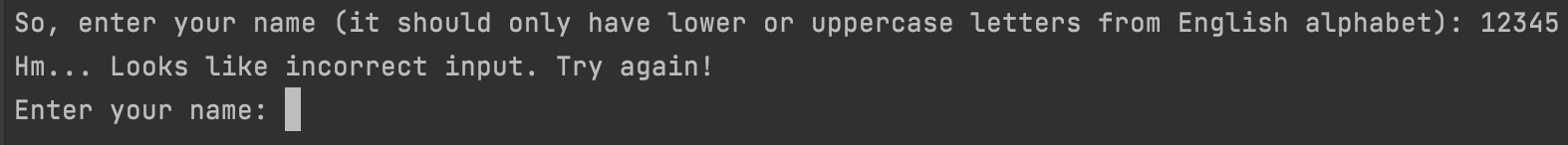
Tests

The game has gone through the detailed testing by its' developer. Here are the examples of test crush system and its' correct execution according to the rules of the game described above:

1. incorrectness of name input

Incorrect examples:

a) name consists of digits



b) name consists of Cyrillic symbols

Изображение выглядит как текст

Автоматически созданное описание

с) name is compound

Изображение выглядит как текст

Автоматически созданное описание

d)name consists of another symbols

Изображение выглядит как текст

Автоматически созданное описание

Etc.

Изображение выглядит как текст

Автоматически созданное описаниеCorrect example:

1. incorrectness of activating game button

Incorrect example:

Изображение выглядит как текст

Автоматически созданное описание

Etc.

Correct example:

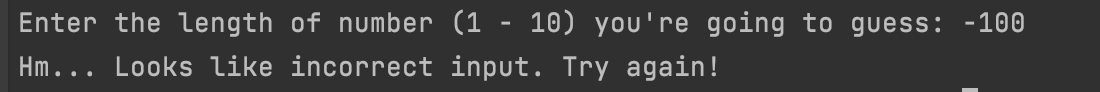
Изображение выглядит как текст

Автоматически созданное описание

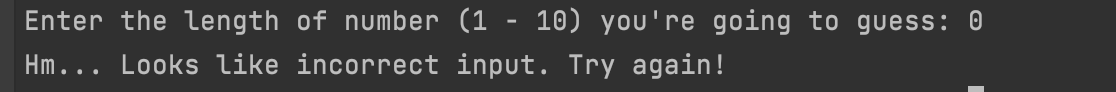
1. incorrectness of number length input

Incorrect examples:

1. number is less than 0



1. number is equal to 0



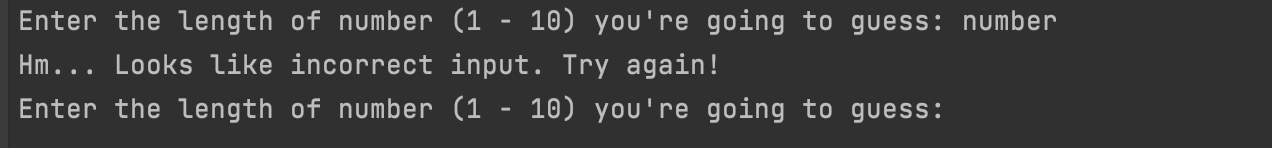
1. number starts with 0 and continues (example: 08)

Изображение выглядит как текст

Автоматически созданное описание

1. Изображение выглядит как текст

   Автоматически созданное описаниеnumber is grosser than 10
2. number consists of letters



Etc.

Correct example:

Изображение выглядит как текст

Автоматически созданное описание

1. incorrectness of secret number

Incorrect examples:

1. number is less than 0

Изображение выглядит как текст

Автоматически созданное описание

1. number is equal to 0

Изображение выглядит как текст

Автоматически созданное описание

1. number starts with 0 and continues (example: 08)

Изображение выглядит как текст

Автоматически созданное описание

1. number has different length (in example length is equal 2)

Изображение выглядит как текст

Автоматически созданное описание

1. number consists only of unique digits

Изображение выглядит как текст

Автоматически созданное описание

Etc.

Correct example:

Изображение выглядит как текст

Автоматически созданное описание

↓↓↓

Изображение выглядит как текст

Автоматически созданное описание

1. incorrectness of quitting

(!!! I don’t consider option with pressing ”ENTER”)

Incorrect example:

Изображение выглядит как текст

Автоматически созданное описание

Correct example:

Изображение выглядит как текст

Автоматически созданное описание

Although there are other options for tests, I want to tell that I tried to cover all basic of them and show the correctness of my program.

Built With

Program was built with the use of C# .NET 5 and JetBrains IDE “Rider”. Firstly, it was also tested there.

Nevertheless, requirements for testing were in the Visual Studio. Therefore, my program was successfully executed and tested in Visual.

Author

Anonymous anonym.

Изображение выглядит как внешний, жираф, млекопитающее, закрыть

Автоматически созданное описание