PROJECT WEEK 1 - Erwan de Boisjolly

MASTERMIND

MASTERMIND
FOR KIDS

PRESENTATION SUMMARY

- Description and rules of the Mastermind
- Workflow
- Challenges encountered during the process
- Learnings
- Possible future improvements
- Demo of the game

DESCRIPTION AND RULES OF THE MASTERMIND

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- The Mastermind is a code breaking game for two players: one player becomes the codemaker, the other the codebreaker.
- The codemaker chooses a pattern of four colour code/marks. Duplicates and blanks are allowed depending on player choice, so the player could even choose four code pegs of the same color or four blanks. In the instance that blanks are not elected to be a part of the game, the codebreaker may not use blanks in order to establish the final code. The chosen pattern is hidden from the codebreaker but visible by the codemaker.
- The codebreaker tries to guess the pattern, in both order and color, within eight to twelve turns.

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- Each guess is made by placing a row of code pegs on the decoding board. Once placed, the codemaker provides feedback by indicating from zero to four key pegs in the small holes of the row with the guess. A red key peg is placed for each code peg from the guess which is correct in both color and position. A white key peg indicates the existence of a correct color code peg placed in the wrong position.

DESCRIPTION AND RULES OF THE MASTERMIND

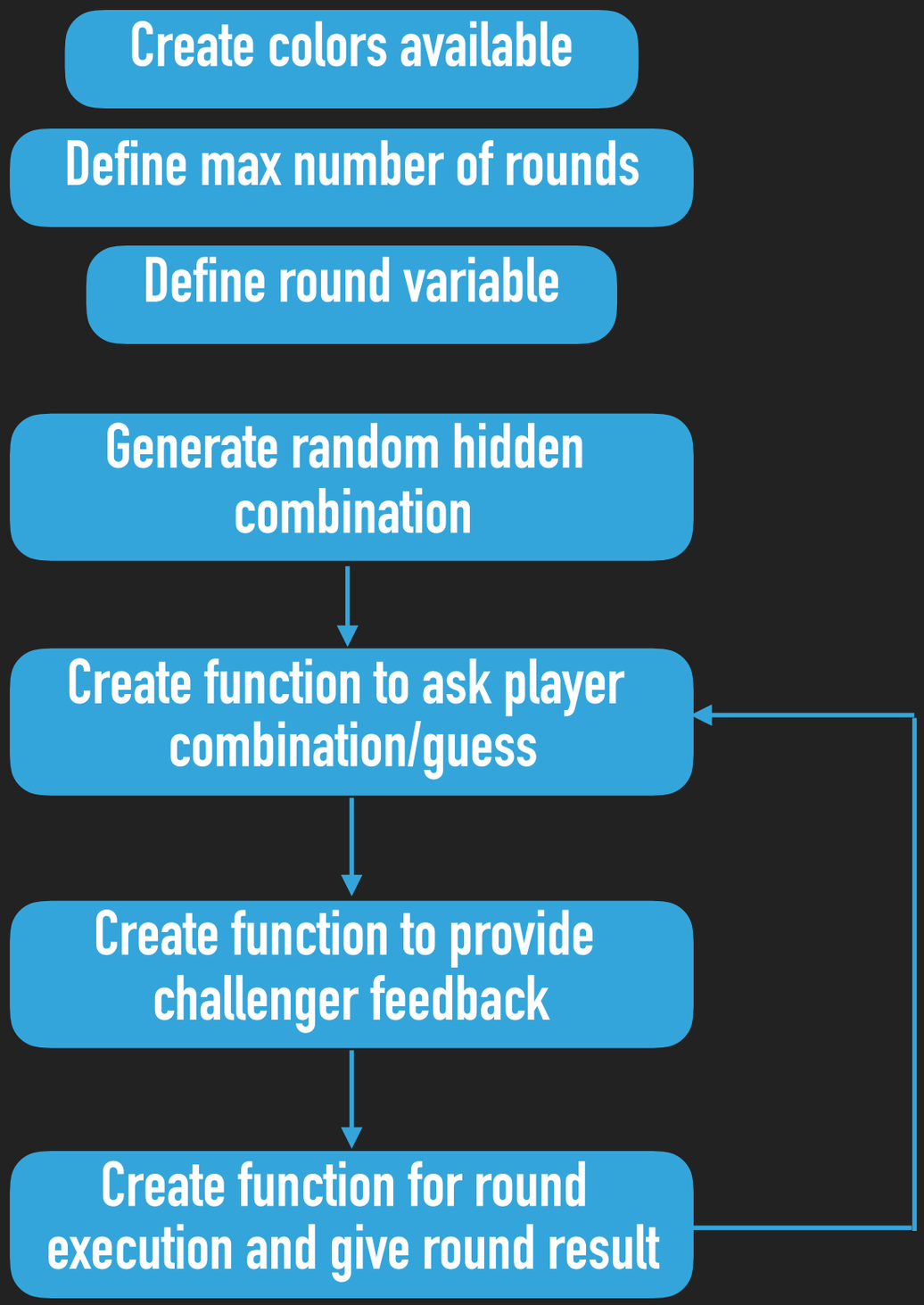
- If there are duplicate colours in the guess, they cannot all be awarded a key peg unless they correspond to the same number of duplicate colours in the hidden code. For example, if the hidden code is blue-blue-green-green and the player guesses blue-blue-blue-green, the codemaker will award two red key pegs for the two correct blues, nothing for the third blue as there is not a third blue in the code, and a red key peg for the green. No indication is given of the fact that the code also includes a second green.

DESCRIPTION AND RULES OF THE MASTERMIND

- Once feedback is provided, another guess is made; guesses and feedback continue to alternate until either the codebreaker guesses correctly, or twelve (or ten, or eight) incorrect guesses are made.

WORKFLOW

WORKFLOW



While loop that breaks if:

- player find the hidden combination
- or if number of round > max number of rounds

CHALLENGES ENCOUNTERED DURING THE PROCESS

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- Global and local variables
- Building the while loop calling the different functions
- Enhance game complexity
- Handling error management

LEARNINGS

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- Trello tool
- Method for this kind of project:
  - organise
  - look for info about the game
  - Prepare the code with .gitignore and pseudo code step
  - Start simple and then add complexity
- Enhance the code for error handling

POSSIBLE FUTURE IMPROVEMENTS

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- Allow blanks in hidden combination
- Introduce more colors or the choice of a category: animals, numbers, etc
- Increase combination length from 4 to 6 or 8 elements
- Create an interface

ENJOY THE GAME !!

GAME DEMO