MASTERMIND 2.0 CONSOLE USER GUIDE

Rules and description:

Mastermind is a code-breaking game invented in 1970
by a postmaster and telecommunication expert named "Mordecai Meirowitz".

This is a game for 2 players: codeBreaker(player1) and codeMaster(player2 or COM).
The "codeMaster" will choose a pattern of four numbers. Duplicates are allowed which means that
four pegs with the same number are allowed (Example: 4444).
The secret code chosen is stored and hidden, visible at the end of the game only.
The codebreaker needs to guess the pattern of numbers and their positions within 10, 8 or 6 turns.
Each time the codebreaker will try to guess the pattern, the codeMaster will provide feedback
placing from zero to four "key pegs". A white key peg for a correct number in a wrong position, and
a red key peg for a correct number and correct position.

Guesses and feedback will continue until the codebreaker will guess the entire pattern or the
attempts (depending the level chosen: easy 10, medium 8, hard 6) will run out.

Playing time will be displayed at the end of the game.
Restart choice will allow users to play again.

"Any button" except "ENTER" at the beginning will show you these rules again.
(Ford, C. 2020)

(Mastermind Game Rules n.d)

Examples :

codeMaster pattern	: 3 4 2 6	Output:	
codeBreaker pattern 1 :	4 3 2 7	1 red peg, 2 white pegs	ATTEMPTS --
codeBreaker pattern 2 :	3 4 5 6	3 red pegs	ATTEMPTS --
codeBreaker pattern 3 :	5 1 7 8	0 pegs	ATTEMPTS --
codeBreaker pattern 4 :	3 4 2 6	4 red pegs	CODEBREAKER WIN

(Basile, G. 2020. Assignment 1 – OOP)

The following pages will show you step by step how to play:

Single Player:

Single player mode is a game for codebreaker VS COM.
The secret code will be generated by random numbers between 1 and 8.


```
Welcome in 2020, this is the new MasterMind 2.0, are you ready to play?
press 'Enter' to start, or press 'any other button' for rules and guidelines
How many players? type 1 or 2
1
What is your name?
Giorgio
Hi Giorgio, get ready to play versus COM          1 player VS COM
CodeMaster will create a secret code of 4 numbers between 1 and 8
3 6 1 4                          secret code will not be displayed!
Choose a level: type 1, 2 or 3
    1 for 10 attempts,
    2 for 8 attempts,
    3 for 6 attempts
3
Attempt left: 6
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
3
1
6
5
You wrong, try again
White pegs = 2, Red pegs = 1
Attempt left: 5
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
3
6
1
4
Congratulations . You WON! . You are a Master Mind!
White pegs = 0, Red pegs = 4
Would you like to play again? Press 'Y' or any other button to exit
```

(Basile, G., 2020. *'GamePlay Single Player'*)

Multiplayer:

Multiplayer mode is a game for codeBreaker VS codeMaster (both humans).
The secret code will be chosen by codeMaster (4 numbers between 1 and 8).


```
Welcome in 2020, this is the new MasterMind 2.0, are you ready to play?
press 'Enter' to start, or press 'any other button' for rules and guidelines
How many players? type 1 or 2
2
Type the name of the codeMaster
Giorgio                                        name codeMaster

Type the name of the codeBreaker
Chris                                          name codeBreaker
Hi Chris and Giorgio, get ready to play with me
CodeMaster, type your secret code of 4 numbers (one by one pressing enter) between 1 and 8
4
5                      secret pattern chosen by codeMaster
3                      (will be not shown)
2
Choose a level: type 1, 2 or 3
   1 for 10 attempts,
   2 for 8 attempts,
   3 for 6 attempts
1
Attempt left: 10
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
4
3
2
5
You wrong, try again
White pegs = 3, Red pegs = 1
Attempt left: 9
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
2
1
3
4
                                           4
```

(Basile, G., 2020. *'GamePlay Multiplayer'*)

Levels:

Users can choose the maximum number of attempts before the game will finish. If the codebreaker will run out of attempts he will be the looser.

```
Welcome in 2020, this is the new MasterMind 2.0, are you ready to play?
press 'Enter' to start, or press 'any other button' for rules and guidelines
How many players? type 1 or 2
1
What is your name?
Giorgio
Hi Giorgio, get ready to play versus COM
CodeMaster will create a secret code of 4 numbers between 1 and 8
1 7 2 5
Choose a level: type 1, 2 or 3
    1 for 10 attempts,                     how clever are you????
    2 for 8 attempts,
    3 for 6 attempts
3
Attempt left: 6
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
1
2
7
8
You wrong, try again
White pegs = 2, Red pegs = 1
Attempt left: 5
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
1
7
2
5
Congratulations . You WON! . You are a Master Mind!
White pegs = 0, Red pegs = 4
Would you like to play again? Press 'Y' or any other button to exit
```

(Basile, G., 2020. *'GamePlay Level'*)

End of game:

If the codebreaker will guess the entire pattern of numbers (winner), or will run out of attempts (looser) the game will terminate.

First case:

```
Attempt left: 5
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
1
7
2
5
Congratulations . You WON! . You are a Master Mind!          codeBreaker won!
White pegs = 0, Red pegs = 4
Would you like to play again? Press 'Y' or any other button to exit
```
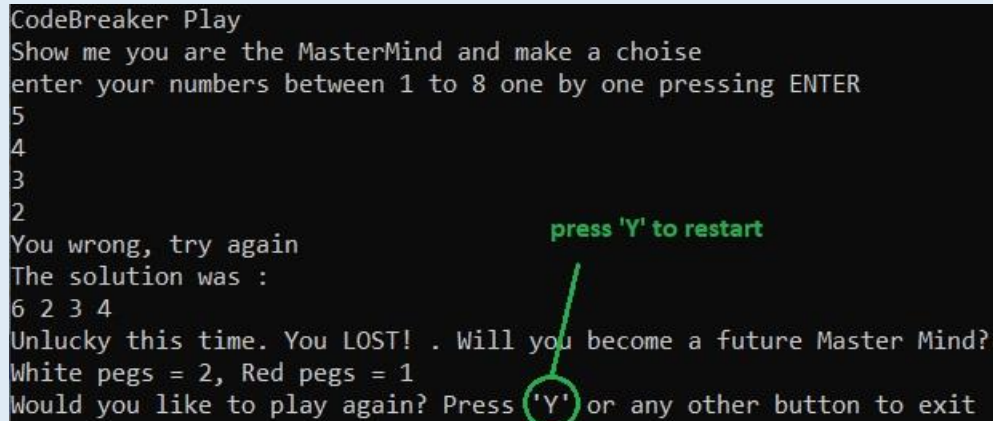
(Basile, G., 2020. *'GamePlay EndOfGameWinner'*)

Second case:

```
Attempt left: 1        last attempt left
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
5
4
3
2
You wrong, try again          This was the correct pattern
The solution was :
6 2 3 4
Unlucky this time. You LOST! . Will you become a future Master Mind?
White pegs = 2, Red pegs = 1
Would you like to play again? Press 'Y' or any other button to exit
```

(Basile, G., 2020. *'GamePlay EndOfGameLooser'*)

Restart Game:

It is possible to restart the game at the end pressing 'Y'.


```
CodeBreaker Play
Show me you are the MasterMind and make a choise
enter your numbers between 1 to 8 one by one pressing ENTER
5
4
3
2                                press 'Y' to restart
You wrong, try again
The solution was :
6 2 3 4
Unlucky this time. You LOST! . Will you become a future Master Mind?
White pegs = 2, Red pegs = 1
Would you like to play again? Press 'Y' or any other button to exit
```

(Basile, G., 2020. *'GamePlay RestartGame'*)

Thank you for playing with us!

Support Centre:

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References:

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- Basile, G., 2020. *'GamePlay Single Player'.* University of Plymouth, Plymouth p 4

- Basile, G., 2020. *'GamePlay Multiplayer'* University of Plymouth, Plymouth p 5

- Basile, G., 2020. *'GamePlay Level'* University of Plymouth, Plymouth p 6

- Basile, G., 2020. *'GamePlay EndOfGameWinner'* University of Plymouth, Plymouth p 7

- Basile, G., 2020. *'GamePlay EndOfGameLoser'* University of Plymouth, Plymouth p 7

- Basile, G., 2020. *'GamePlay RestartGame'* University of Plymouth, Plymouth p 8