Mastermind

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CSC-5 Summer 2016

**Intro:**

Mastermind is a game for two players. One is the Codemaker, and the other is a Code Breaker. The game is played on a board with 12 rows, with 6 different color pegs. The Codemaker picks 4 colors and hides them from the Codebreaker. The Codebreaker has 12 chances to guess the right 4 pegs in the right order. As the Codebreaker guesses, the Code maker places a white or black peg to let the Codebreaker know which pegs are the right color in the right place, or the right color in the wrong place. The Code maker wins when the code breaker does not guess the combination. Another way to play is to give points for a black/white peg and points for each wrong guess. Whoever has the most points wins. There is 1296 different patterns that can be made.

**Modifications:**

For this version I modified the white/black pegs to let the Codebreaker know what peg in what position was correct. I did this at the time because I wasn’t sure how to do the white/black pegs. With further thought, I think a For Loop could be used to count the white and black pegs for each guess. I am going to try to make that change work in the future.

**Psuedocode:**

Start

#include ctime

#include random number generator

Welcome to MasterMind!

To learn how to play, Press 1;

To play, Press 2;

For 1: Welcome to Mastermind! The objective of the game is to guess the 4 colors, in the correct order, that the Codemaker has picked. The Codemaker will let you know if you are right or wrong. Good Luck!

Hello, Code Breaker.

How many tries do you need? Choose a number between 8 and 12.

Player enters a number not between 8 and 12.

Return back to Hello, Code Breaker. How many tries do you need?

Player enters a number between 8 and 12.

Set rndm1=1-6

Set rndm2=1-6

Set rndm3=1-6

Set rndm4=1-6

IF 1 is R, 2 is B, 3 is G, 4 is Y, 5 is O and 6 is P.

You have nTries to use. Make a guess of 4 colors.

The colors are ‘R’, ‘B’, ‘G’, ‘Y’, ‘O’, ‘P’.

Guess=c1,c2,c3,c4

IF c1==rndm1 output W, else output X

If c2==rndm2 output W, else output X

`If c3==rndm3 output W, else output X

If c4==rndm4 output W, else output X

If none are correct, output XXXX

If one is correct, output WXXX

If two are correct, output WWXX

If three are correct, output WWWX

If all 4 are correct, output “You Win!”

Add ++ to nGuess and check it against the number nTries;

If guesses are not all correct, repeat until nGuess == nTries

Or player guesses correctly.

If player guesses all 4 correctly, output “You Win”

If incorrect until nGuess==nTries,

Output, the correct answer was () () () ().

Do you want to play again? Y, N.

Y returns player to beginning.

No stops the program

End