

Steer Elite Internship Program

Skills Assessment – Gameplay Programming Track

Congratulations! If you are reading this, you have passed the first step of the Savvy Kickstarter Program application process! The second and last step of our application process includes the below skills assessment for the **Gameplay Programming** track for our 2025 cohort.

DIRECTIONS:

Mastermind's editor has hired your studio to build a video game version of the world-famous game. Your mission is to write the program in C#, using the best of your knowledge of OOP (Classes, Objects, Methods, Attributes, Encapsulation, Polymorphism, Inheritance...).

- Mastermind is a game composed of 9 pieces of different colours.
- A secret code is then composed of 4 distinct pieces.
- The player has 10 attempts to find the secret code.
- After each input, the game indicates the number of well-placed pieces and misplaced pieces.
- Pieces are '0' '1' '2' '3' '4' '5' '6' '7' '8'.
- If the player finds the code, they win, and the game stops.
- A misplaced piece is a piece that is present in the secret code but in a wrong position.
- You must read the player's input from the standard input.
- Your program must work on the windows console terminal.
- The game needs to handle the sequence `Ctrl + d`. It's End Of File, as a normal execution.
- When it starts, the game displays: `Can you break the code? Enter a valid guess.`
- When the user wins, the game displays: `Congratz! You did it!`
- If code is invalid, the game displays:
Well-placed pieces: `X` (`X` is the digit with the correct values).
Misplaced pieces: `Y` (`Y` is the digit with the correct values).
- Your program will also receive the following parameters:
 - c [CODE] : specifies the secret code. If no code is specified, a random code will be generated.
 - t [ATTEMPTS] : specifies the number of attempts; by default, the player has 10 attempts.

DELIVERABLES:

You are expected to provide both the below file and link:

- A `README.md` file to describe your project and how it works.
- A GitHub link to your repository

WE ARE LOOKING FOR CANDIDATES ABLE TO DEMONSTRATE:

- Ability to meet deadlines and production constraints.
- Ability to create and enhance AI-generated content.
- Knowledge of the video game industry.
- Rigor, attention to detail, and ability to follow instructions.

EXAMPLE 00:

```
PROMPT>./my_mastermind -c "0123"  
Will you find the secret code?  
Please enter a valid guess  
---  
Round 0  
>1456  
Well placed pieces: 0  
Misplaced pieces: 1  
---  
Round 1  
>tata  
  
Wrong input!  
>4132  
Well placed pieces: 1  
Misplaced pieces: 2  
---  
Round 2  
>0123  
Congratz! You did it!
```

PROCESS:

- Generate the .md file (maximum 1Mb).
- Post your code on GitHub
- Share your link and upload your file to the link you were provided for this assessment.

DUE DATE:

Refer to instructions received by email. Any late submissions will be withdrawn.