

# Marble Goff

A Card Game for Learning Programming

By Jan Bingemann



An exercise book for learning the MarblePunk programming language, as defined in the Pinocchioverse documentation (<https://pinocchioverse.org/documentation/>). You can find more about the language and why it was defined on a fictional universe here:  
<https://narratedidactics.files.wordpress.com/2023/03/marblepunk-1.pdf>

Jan Bingemann, April 2023, this text as well as all images original by the author are licensed under CC BY-SA 4.0 (Attribution, ShareAlike). The rights of the other images belong to their authors respectively.

Partially based on exercises from <https://www.csunplugged.org/>

# The Story of Marble Golf

In the beginning of the marble revolution, technical entrepreneurs needed leisure from inventing all that knowledge for humankind and they invented a game, which they and their marble craftsmen could play in their free time and at home with their families.

In this time, one of their greatest inventors: Ada Lovelace, had the idea of using the little mechanic mouse, which she had crafted for her mad father as basis for the little game. The players would need to craft a marble run for the inside of the mouse such that it can get the cheese at the end of a maze.

She showed it at the inventor's society and the fact that mechanic mice of course do not dream of real cheese only increased the interest in the game. People were positively amused indeed!

And this way, marble code golf was invented, and it quickly spread through the world almost as quickly as the marble revolution itself.

## Rules Explanation

The game is a physical version of the popular programmer game “coding golf”, in which programmers try to solve a programming task with as little instructions as possible. For this, the fictional programming language “MarblePunk” was used, in which programs can be constructed by building marble runs.

The game goes as follows: a card is revealed, which shows a task that the players have to solve with marble track pieces. They can do it in their heads or use pencil and paper as aid. If they found a solution, they say the number of pieces they used – but this does not necessarily end the round. Other players can still say lower numbers than this player.

After a pre-determined time, the player, which said the lowest number has to solve the task with exactly this number of track pieces in a certain amount of time. If they do it, they get as much points as are noted on the task, if not, the player, which said the next lowest number can have a try. This goes on until some player solves the problem or no player does, and the task is discarded.

For trying out the solution, one player may play “the marble” and the other player “the mouse” (the player left to the player who said the number is the marble, the one after that the mouse). The marble-player then moves the marble through the marble run and tells the mouse-player the instructions to follow. If the mouse reaches the cheese was the marble run successful for this task and the player, who build it gets points.

After eight rounds, the player that has the most points, wins.

How marble runs can be constructed with marble track pieces is described in this documentation: <https://pinocchioverse.org/documentation/> In general, all of the described pieces can be used to solve the tasks of this game.

In general, all connected track pieces that could be one piece count as one piece. A series of many curves is still only one curve. But an intersection also counts as one piece. Also, every seal counts as a track piece.

# Material

To play the game, the following material is needed:

- Task cards (see the next pages)
- Time clock
- Pen & Paper for every player





