Collecto Game Rules

Software System
Programming Project 2020/2021

Version 1.1

This document describes the rules for the Programming Project game of 2020/2021. The rules as stated in this document (might) differ from the official rules. In case of a difference, this document is leading. If there is a game breaking mistake in this document (e.g. an uncovered edge case or clashing rules), please send a mail to Ömer Şakar (`o.f.o.sakar@utwente.nl`).

CREDITS: The text is based on the original document explaining the rules [1].

CHANGELOG:

- **Version 1.1, 20 Dec 2020:** Changing the color of the "purple" balls into "purple/pink". You can pick which ever colour you see best fit.

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[1]See `https://foxmind.com/wp-content/uploads/2019/10/Collecto_Rules_print.pdf`

Game

Collecto is a two-player board game where players move lines of balls around a board to get points.

Contents of the gamebox

- The board: A 7-by-7 grid onto which the balls can be placed.

- 48 balls: The balls come in six colors (blue, yellow, red, orange, purple/pink[2] and green) and there are 8 balls for each color.
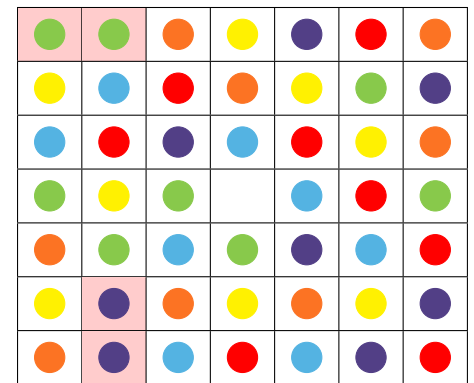
Setup

The game starts with the 48 balls distributed over the board randomly. The center of the board is left empty and no two balls of the same color can be (horizontally or vertically) adjacent of each other.
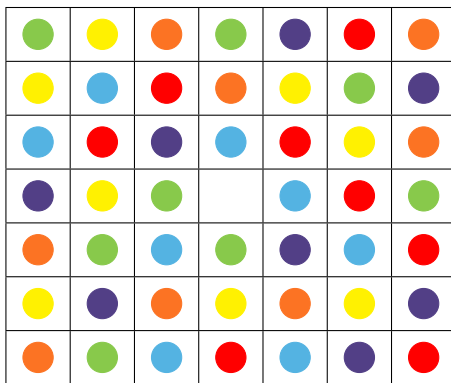
Valid initial board
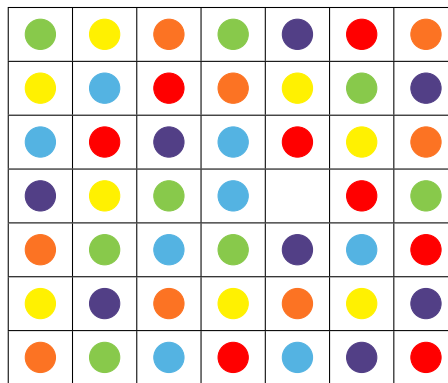
Invalid initial board:
The center of the board is not empty.

Invalid initial board:
There are balls of the same color are adjacent of each other.

Rules

The player who starts is determined randomly. Each turn, a player makes a valid *single move*, or a valid *double move* if a valid single move is not possible. A move is valid if it results in at least two adjacent balls of the same color somewhere on the board.

A *single move* is performed by pushing the balls of a row or column in a direction (left, right, up or down) until all balls in that row or column are next to each other (see Figure 2) and no ball in that row or columncan be pushed further towards the edge of the board. Only if a single move is not possible, that is, no single move results in adjacent balls of the same color, then a double move is allowed (see Figure 3). A double move must also result in at least two adjacent balls of the same color.

After the move, all adjacent balls of the same color are collected by the player. As you can see, every move removes at least two balls from the game board.

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[2]Depending on the background color of the terminal/command prompt you use, it might be better to use purple (with a light background) or pink (with a dark background). We leave this choice to you.
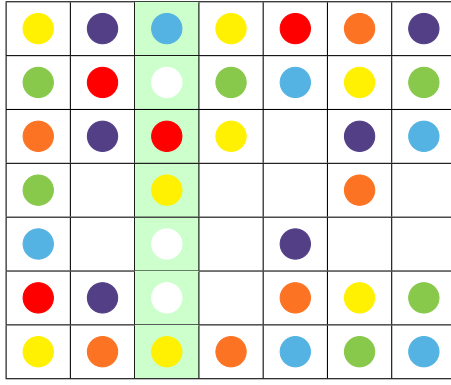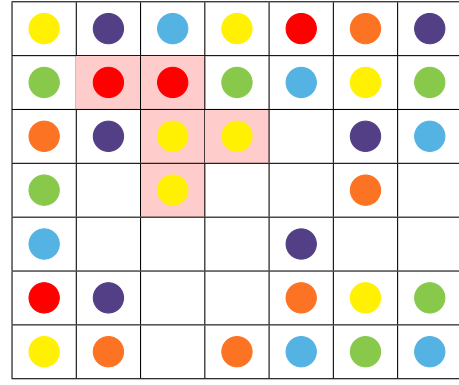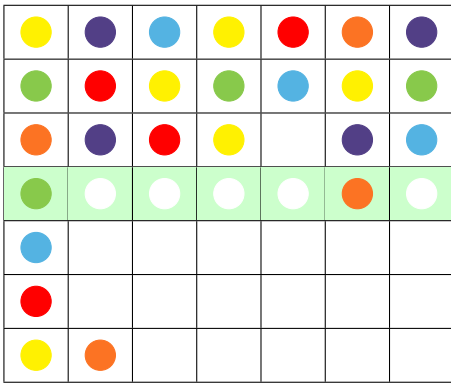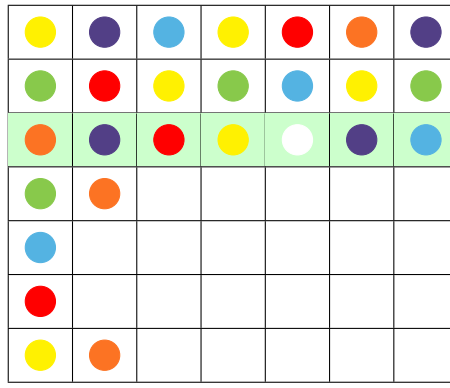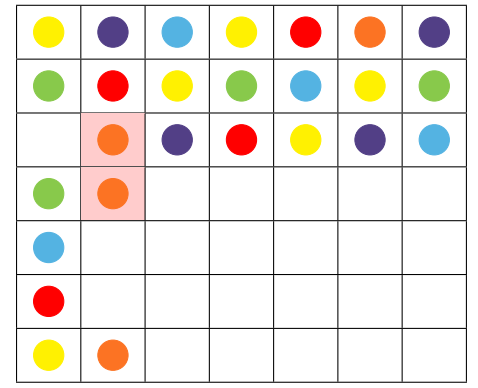
(a) Before   (b) After

Figure 2: Single move: moving the second column (from the left) up, resulting in three yellow balls and two red balls.

(a) Before

(b) After moving the middle row to the left

(c) After moving the third row (from the top) to the right.

Figure 3: Double move: moving the middle row to the left, then third row (from the top) to the right, resulting in two orange balls.

End game

The game ends when no valid (single or double) move can be made. The players get a point for every three balls of the same color they have. If a player has 14 balls ●●●●●●●●●●●●●●, then they have 1 point from the blue balls and 1 point from the red balls resulting in *2 points*.

The winner is determined as follows:

1. The player with most points wins.

2. If they have the same number of points, the player with the most balls wins.

3. If they have the same number of points and the same number of balls, it is a draw.