Running tests

With Alire:
```
alr run -a check
```

Without Alire:
```
./tada check
```

High level requirements

REQ.1 – Reset – When the game starts or when the player presses R the grid it should be in its initial state

REQ.2 – Side movement – When the player presses Left / Right the piece should move Left / Right if possible

REQ.3 – Line deletion – When one or several lines are full, they should be deleted

REQ.4 – Periodic fall – The current piece should move down at a fixed period unless the space below it is taken, in which case it should stop

REQ.5 – Display – The game can be displayed properly

Low level requirements

REQ.1.1 – Initial state – Every block in the game grid should be set to False when the game is initialized

REQ.1.2 – R input – Every block in the game grid should be set to False when a 'R' input is received

REQ.2.1 – Side free – When a 'Left' / 'Right' input is received, the current piece's X coordinate should be increased / decreased by 1 if enough space is available

REQ.2.2 – Side blocked – When a 'Left' / 'Right' input is received, the piece should not move if not enough space is available

REQ.3.1 – Line deleted – When a line is full, all the associated blocks should be set to False

REQ.3.2 – Lines lowered – When a line is deleted, all the above lines should be lowered by 1 block

REQ.4.1 – Piece down – At level 1 the piece Y coordinate should increase by 1 every second

REQ.4.2 – Piece lock – If the space below the current piece is taken when the piece should move, it should stop moving and get added to the grid

REQ.4.3 – New piece – When the piece gets added to the grid, a new piece should be selected

High level requirements test cases

TC.5.1 – Display – Check that the game can be displayed properly (required user input to close the window)

Low level requirements test cases

TC.1.1.1 – Initial state – Check that the number of blocks in the grid is 0 after initializing it

TC.1.2.1 – R input – Check that the number of blocks in the grid is 0 after receiving a 'R' input

TC.2.1.1 – Side free left – Check that the current piece's X coordinate is decreased by 1 when a 'Left' input is received

TC.2.1.2 – Side free right – Check that the current piece's X coordinate is increased by 1 when a 'Left' input is received

TC.2.2.1 – Side blocked left – Check that the current piece's X and Y coordinate remain the same after receiving a 'Left' input when the piece is blocked

TC.2.2.1 – Side blocked right – Check that the current piece's X and Y coordinate remain the same after receiving a 'Right' input when the piece is blocked

TC.3.1.1 – Line deleted – Check that the number of blocks in the grid is reduced by the size of a line when a full line is deleted

TC.3.2.1 – Lines lowered – Check that blocks above the deleted line have their Y coordinate decreased by 1 when a full line is deleted

TC.4.1.1 – Piece down – Check that the current piece's Y coordinate is increased by 1 after 1 second

TC.4.2.1 – Piece lock – Check that the number of blocks in the grid is increased by 4 when the piece was not able to move down after 1 second

TC 4.3.1 – New piece – Check that when the current piece is added to the grid, a new piece is selected

Traceability

HLR	Code
REQ.5 – Display	Game.Display

HLR	LLR
REQ.1 – Reset	REQ.1.1 – Initial state
	REQ.1.2 – R input
REQ.2 – Side movement	REQ.2.1 – Side free
	REQ.2.2 – Side blocked
REQ.3 – Line deletion	REQ.3.1 – Line deleted
	REQ.3.2 – Lines lowered
REQ.4 – Periodic fall	REQ.4.1 – Piece down
	REQ.4.2 – Piece lock
	REQ.4.3 – New piece

LLR	Code
REQ.1.1 – Initial state	Game.Reset
REQ.1.2 – R input	Game.Handle_Input / Game.Reset
REQ.2.1 – Side free	Game.Move_Piece / Grid.PieceFits
REQ.2.2 – Side blocked	Game.Move_Piece / Grid.PieceFits
REQ.3.1 – Line deleted	Grid.Remove_Full_Lines
REQ.3.2 – Lines lowered	Grid.Remove_Line
REQ.4.1 – Piece down	Grid.Update / Grid.Move_Piece
REQ.4.2 – Piece lock	Grid.Lock_Piece
REQ.4.3 – New piece	Game.Spawn_Piece

HLR	Test Cases
REQ.5 – Display	TC.5.1 – Display

LLR	Test Cases
REQ.1.1 – Initial state	TC.1.1.1 – Initial state
REQ.1.2 – R input	TC.1.2.1 – R input
REQ.2.1 – Side free	TC.2.1.1 – Side free left
	TC.2.1.2 – Side free right
REQ.2.2 – Side blocked	TC.2.2.1 – Side blocked left
	TC.2.2.1 – Side blocked right
REQ.3.1 – Line deleted	TC.3.1.1 – Line deleted
REQ.3.2 – Lines lowered	TC.3.2.1 – Lines lowered
REQ.4.1 – Piece down	TC.4.1.1 – Piece down
REQ.4.2 – Piece lock	TC.4.2.1 – Piece lock
REQ.4.3 – New piece	TC 4.3.1 – New piece

Architecture