Domination Game (Versie 2)

Start A Game   Moves   Exit

It's Player Red's Turn.

X Coordinate 32

Y Coordinate 83

(1, 0)

No moves possible. Player Red wins.

OK

Domineering Game

Start A Game   Moves   Exit

It's Player Red's Turn.

X Coordinate 32

Y Coordinate 83

(1, 0)

MovesWindow

Blue player (0, 3) (0, 4)
Red player (1, 3) (2, 3)
Blue player (2, 5) (2, 6)
Red player (0, 6) (1, 6)
Blue player (5, 3) (5, 4)
Red player (1, 7) (2, 7)
Blue player (3, 2) (3, 3)
Red player (4, 1) (5, 1)
Blue player (3, 6) (3, 7)
Red player (3, 5) (4, 5)
Blue player (4, 6) (4, 7)
Red player (5, 6) (6, 6)
Blue player (7, 5) (7, 6)
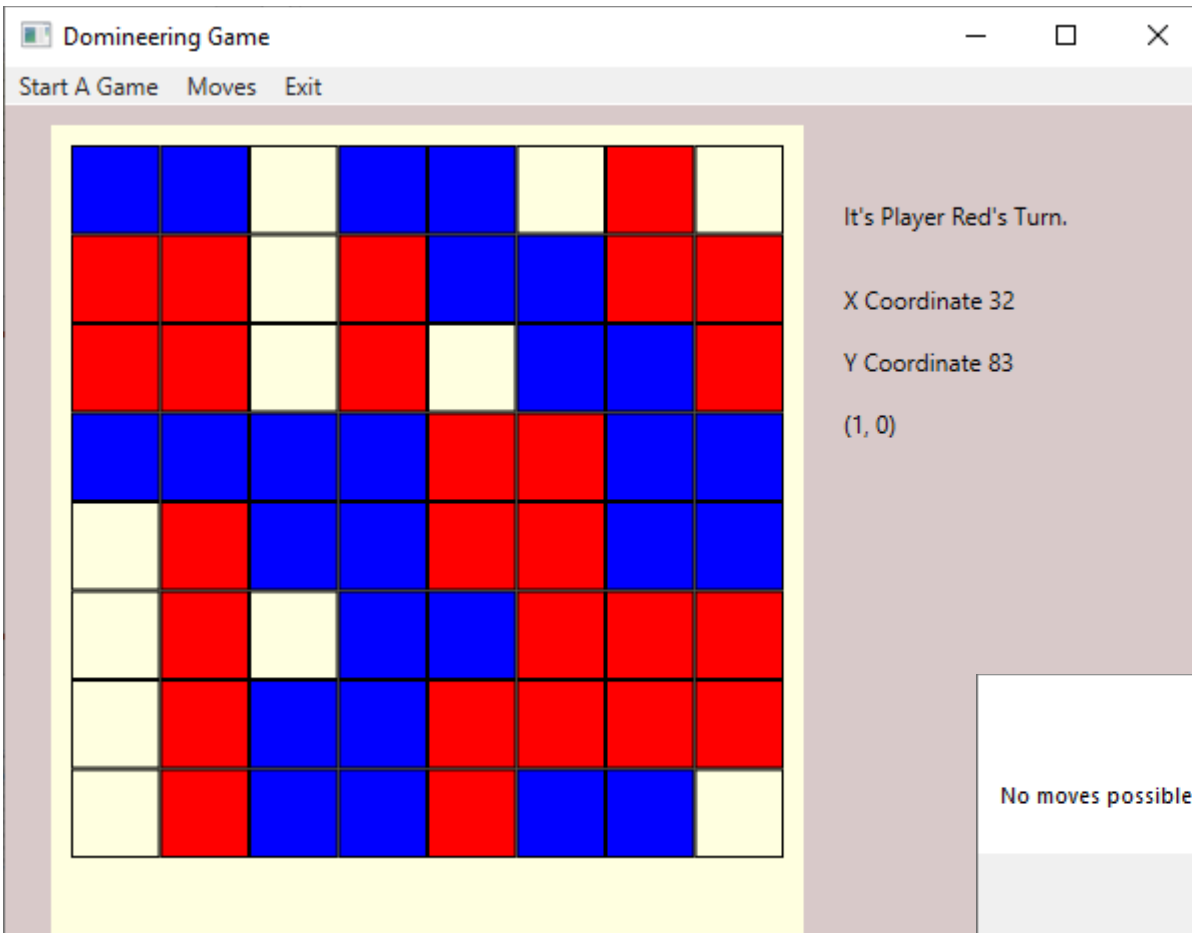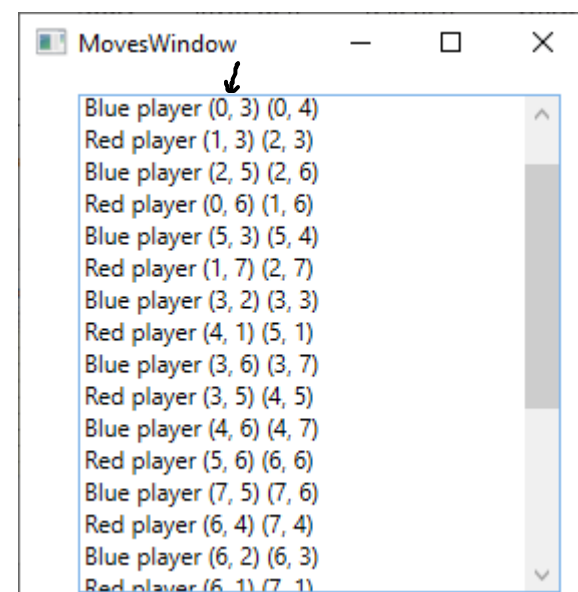Red player (6, 4) (7, 4)
Blue player (6, 2) (6, 3)
Red player (6, 1) (7, 1)
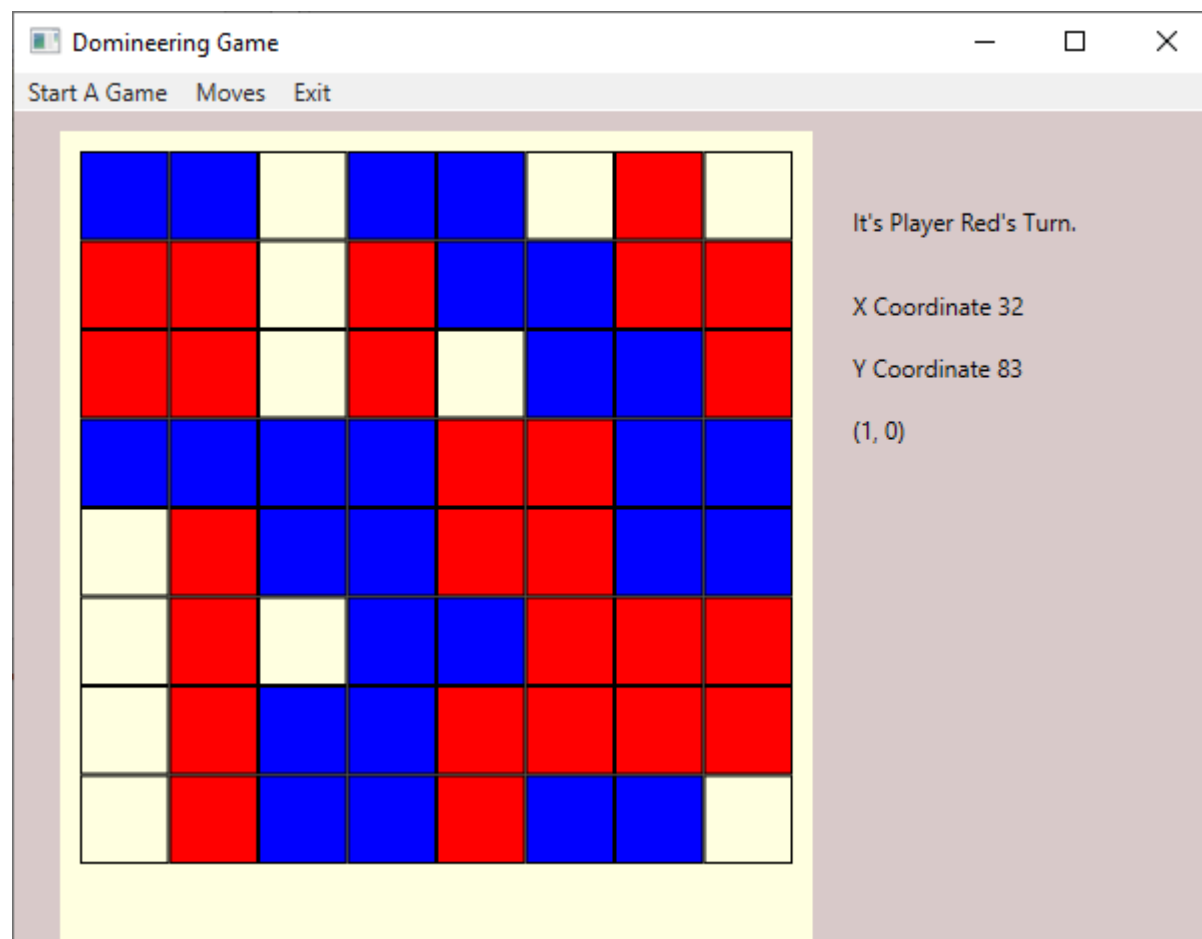
Board

2 dim array van blocks (om het raster te maken)

streamwriter

constructor

* aanmaken van 2 dim array van blocks
* aanmaken van de blocks
  rijnr, kolomnr, grootte block
* streamwriter aanmaken om gegevens weg te schrijven naar bestand domination.txt
  "
  ;

Display on Canvas

filePath
Restart()
  * eigenaar van elk blokje op None
  * writer sluiten
  * nieuwe writer aanmaken

Block

rectangle
constructor

* rectangle aanmaken
  rijnr, kolomnr → Margin
  grootteblock → Heigth, Width

Display on Canvas

Mainwindow

in XAML Menu aanmaken
public const arte Number of Rows   (8)
public constante Margin   (10)
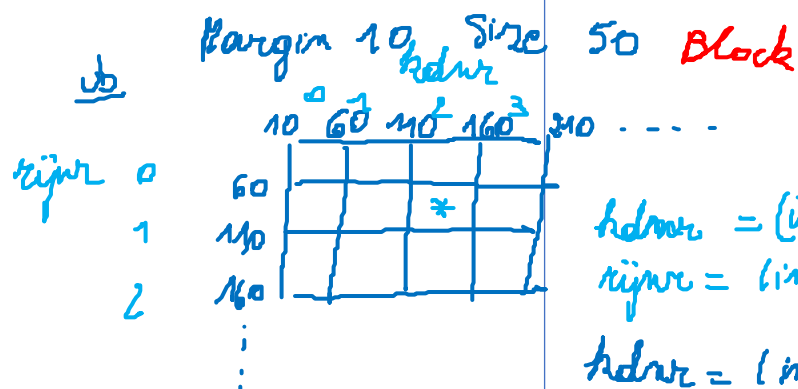
board

constructor

* grootte van 1 block berekenen
* aanmaken van een board (grootte block meegeven)

* board op Canvas plaatsen

game Started   opgave enum Player
                      Red, Blue, None
current Player
* event handler start a Game Item
  * computer kiest een speler
  * juiste menu Items disabelen
  * labels speler juist instellen
  * game Started true
  * herstarten Game

Board

Margin 10 Size 50 **Block**

kolnr
0   1   2   3
10 60 110 160 210 . . . .

rijnr 0
1
2

| 60 |
| 110 |
| 160 |

X = 120
Y = 80

$kolnr = (int)(X - 10)/50$

$rijnr = (int)(Y - 10)/50$

$kolnr = (int)(X - Margin)/sizeBlock$

Mainwindow

eventhandler van MouseUpEvent (event e)
↳ game started true?
↳ * e.GetPosition → X labels vullen
              ↘ Y

* rijnr, kolnr berekenen
    blokSize

* nagaan of speler zet kan doen
   ↳ ClaimBlocks gebruiken

ClaimBlocks (rijnr, kolnr, player)

* nagaan of blok vrij is

[Nee DominationException opgooien
[ja Player Red ↓

    [ja bestaat blok eronder
         ↳ nee DominationException
         ↳ ja nagaan of blok eronder
         vrij is nee DominationException
                  ↳ ja blok + blok eronder owner toewijzen
                  (kleur wijzigen)

[nee analoog

---

owner

IsEmpty ()

✓ bij aanmaken blok
0 owner op Player.None zetten

testen of owner: Player.None
ToString → rijnr, kolnr Instantie eigenschap
(rijnr, kolnr) **property Owner**
setter kleur
aanpassen
None → kleur transParent

wegschrijven naar bestand
tip overschrijf deToString methode in
klasse Block

* HasMoveLeftFor (player)

player Blue (→)
  ⌐ 2 dim array kolom per
   kolom doorlopen (buiten laatste)
    vakje vrij ? — rechterbuurvrij ?

player Red
  ⌐ 2 dim array rij per rij
   doorlopen

EndGame( )
  afsluiten van de writers

↑
| * exception opvangen
| ⌐ Message Box + van speler
| wisselen
|
| * geen exception (▽ moet in try
   gedeelte staan)

  nagaan of de andere speler
  een zet kan doen HasMoveLeftFor
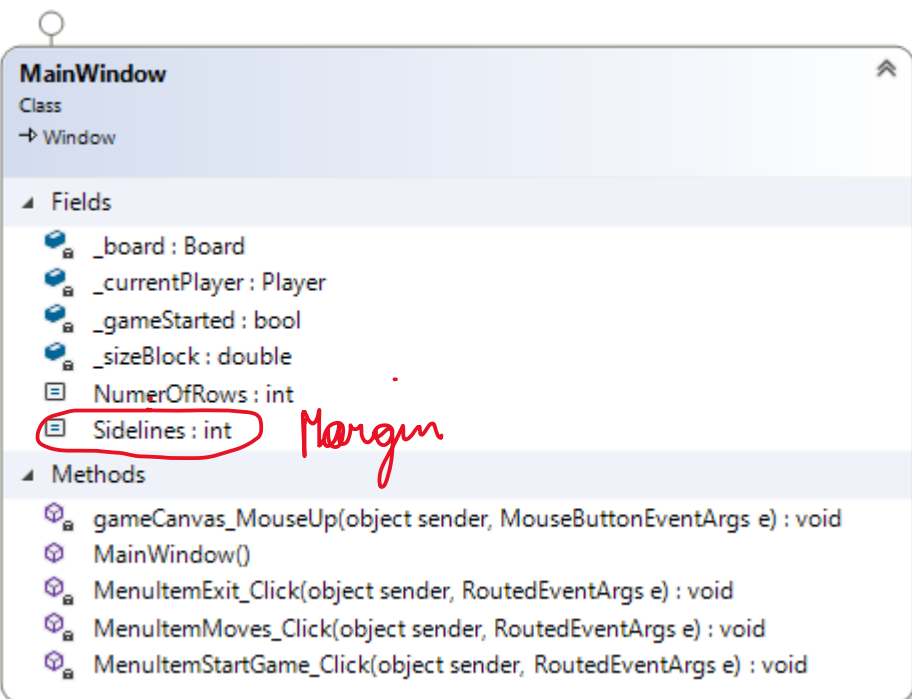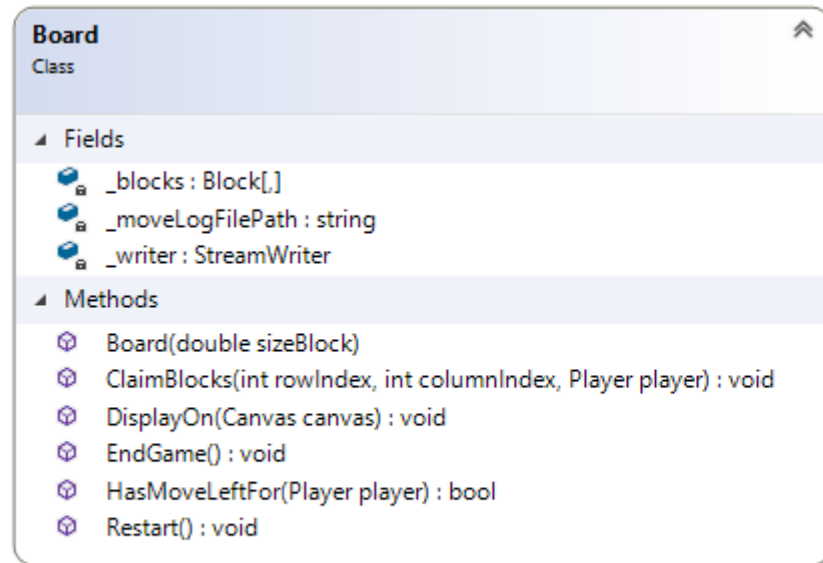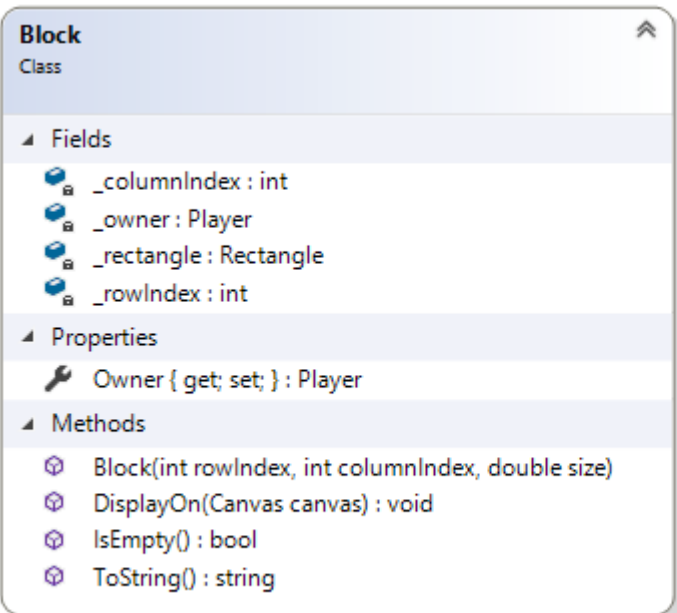   ⌐N huidige speler gewonnen
    ⌐S speler wisselen

     ⌐ writer afsluiten →
      methode EndGame
      GameStarted false
     ⌐ move/rem enabelen

* event handler movesMenu

      ↳ openen van MovesWindow
      bij oproepen constructor
      domination. txt inlezen

* event handler exitItem

Block
Class

Fields
- _columnIndex : int
- _owner : Player
- _rectangle : Rectangle
- _rowIndex : int

Properties
- Owner { get; set; } : Player

Methods
- Block(int rowIndex, int columnIndex, double size)
- DisplayOn(Canvas canvas) : void
- IsEmpty() : bool
- ToString() : string

Board
Class

Fields
- _blocks : Block[,]
- _moveLogFilePath : string
- _writer : StreamWriter

Methods
- Board(double sizeBlock)
- ClaimBlocks(int rowIndex, int columnIndex, Player player) : void
- DisplayOn(Canvas canvas) : void
- EndGame() : void
- HasMoveLeftFor(Player player) : bool
- Restart() : void

MainWindow
Class
→ Window

Fields
- _board : Board
- _currentPlayer : Player
- _gameStarted : bool
- _sizeBlock : double
- NumerOfRows : int
- Sidelines : int   *Margin*

Methods
- gameCanvas_MouseUp(object sender, MouseButtonEventArgs e) : void
- MainWindow()
- MenuItemExit_Click(object sender, RoutedEventArgs e) : void
- MenuItemMoves_Click(object sender, RoutedEventArgs e) : void
- MenuItemStartGame_Click(object sender, RoutedEventArgs e) : void

MovesWindow
Class
→ Window

Methods
- MovesWindow()

Player
Enum

- Red
- Blue
- None

DominationException
Class
→ Exception

Methods
- DominationException(string message)