

Criterion B – Design

Design of the Solution

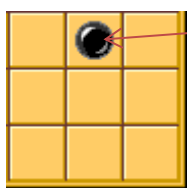
Important Components:

- Board
- Black Chip (Button)

Board has following properties:

- Holds black chips for both players whether they are humans or computers
- Limits incorrect move

For example)



Cannot place black chip here again (illegal movement)

This is how black chips will most likely appear

Black Chip has following properties:

- It is represented by buttons
- When a specific spot on a board is clicked, a black chip immediately appears and the place is occupied meaning it cannot be clicked again

Player 1: 

Player 2 or Computer:

* Note that in Triplets, both players use same chips

Board Actions

Main() – This will be the first method executed which will let player choose to whether play against another player or a computer

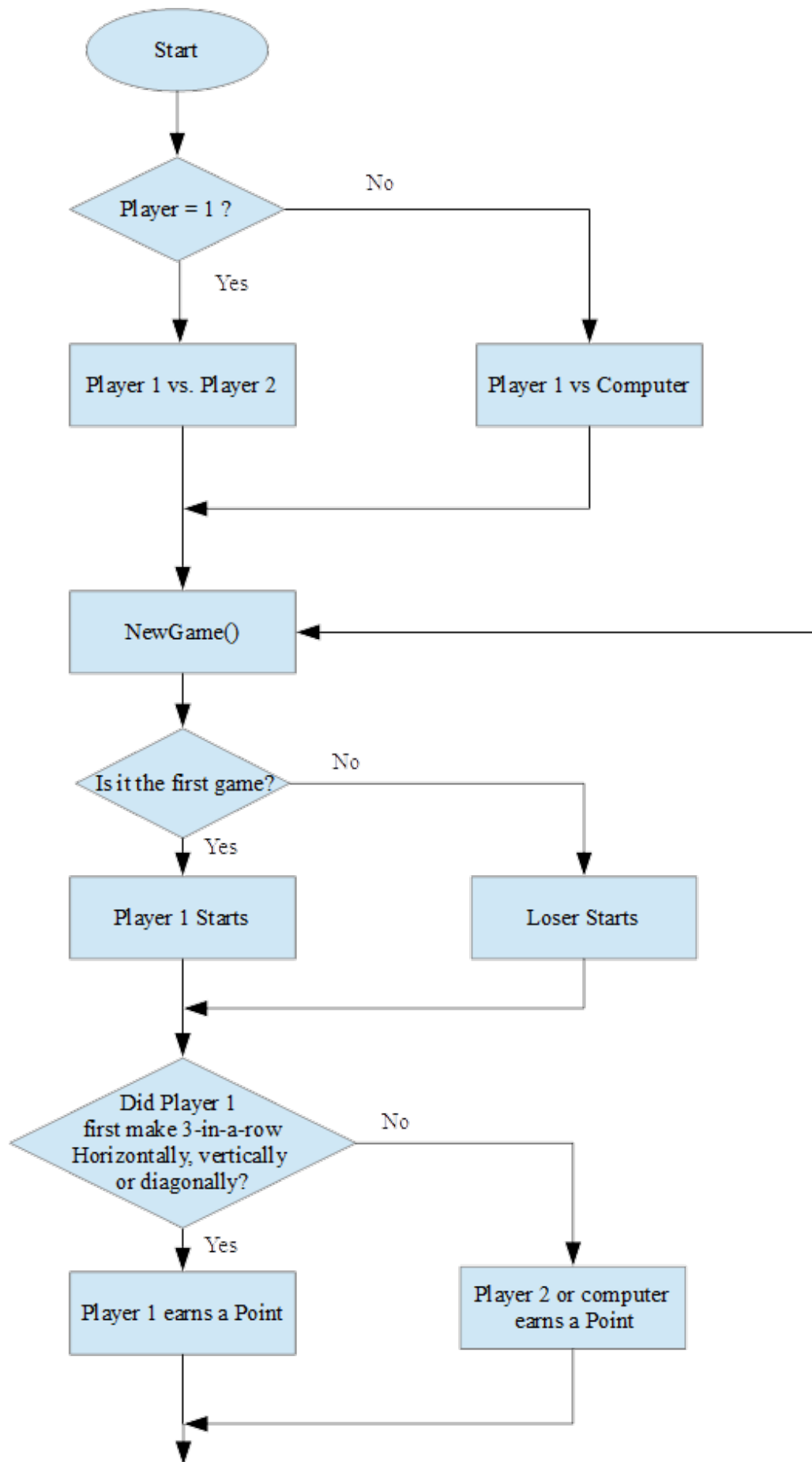
Difficulty() – When a player wants to play Triplets against computer, he or she may alter the difficulty by choosing the level.

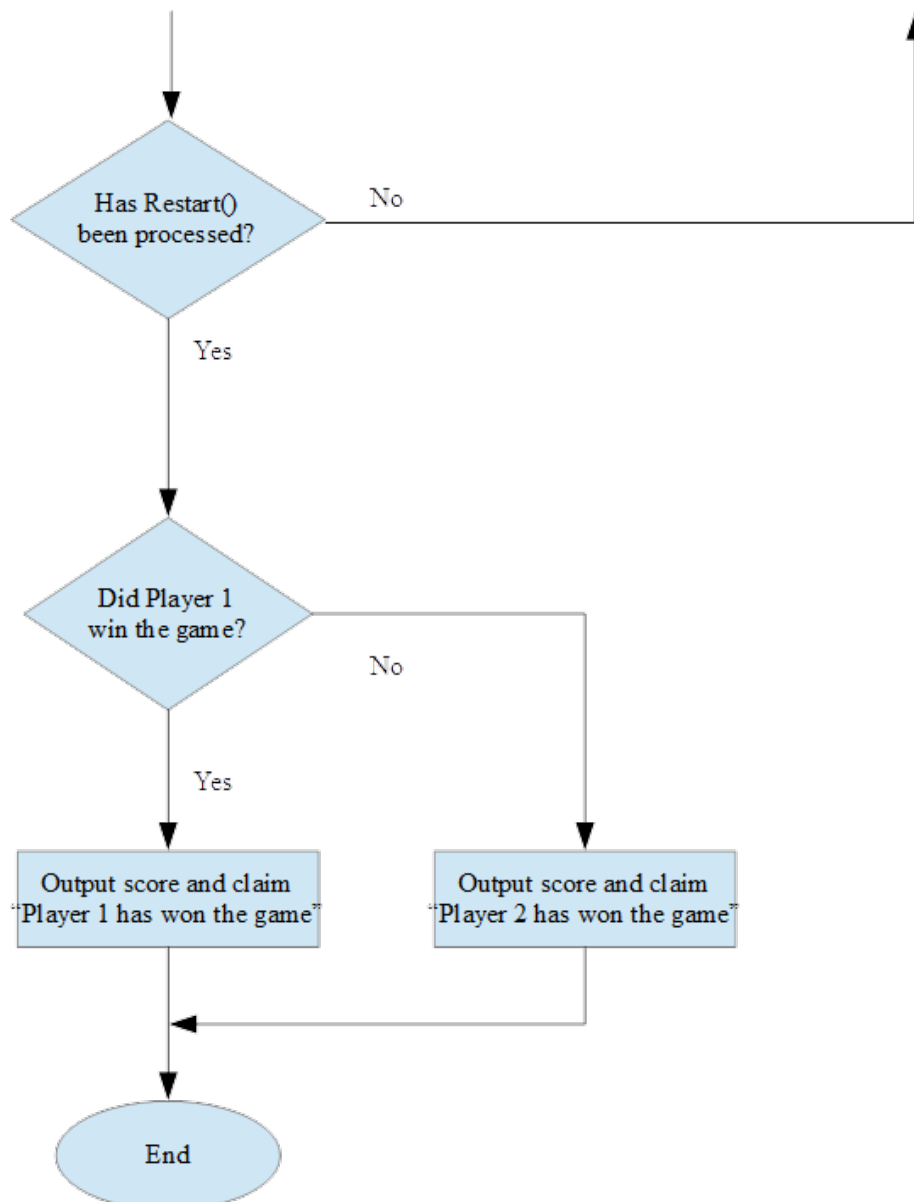
Restart() – This will clear the board up so that new game can be played. It will save score and import the data of who won so that loser can start

Chip (Button) Actions

AllButton() – will include all jButtonns

AllButton.ActionPerformed() – when clicked, it will be colored black and “occupied”.





Yet, the methods above are just simple methods in order to represent with a flowchart. There is a crucial programming to be included in order to fully execute the game correctly.

- **WinPattern()** // This checks board whether a player won for 6x6 board
Pseudocode for checking WinSquares

For row from 0 to TotalRows

For column from 0 to TotalColumns

//for horizontal

If Button(column,row) and Button(column+1,row) and Button(column+2,row) are occupied

The game has been won by the last player who placed the chip

//for vertical

If Button(column,row) and Button(column,row+1) and Button(column,row+2) are occupied

The game has been won by the last player who placed the chip

//for diagonal

If Button(column,row) and Button(column+1,row+1) and Button(column+2,row+2) are occupied

The game has been won by the last player who placed the chip

- **Difficulty()** // This will be how computer will act according to player's move
Pseudocode for the Moves of AI

Get level from where the user inputs what level to play with

If level is BEG // stands for beginner

ComputerPlay(beginner)

The computer move will be random // any place on board

If level is INT // intermediate

ComputerPlay(intermediate)

The computer will check which buttons has been pressed by the user with loop and check for a place that would not let the user make three in row for example if Button(column,row) is occupied, Button(column+1,row+2) will be pressed by the computer

More Explanation to Intermediate Mode: Computer tries to figure a spot that would not let the player to make 3-in-a-row. To do this, the computer must not try to place the chip right next to or one place gap between existing chip horizontally, vertically or diagonally.

For example)

