**Base Class :
BoardGame2D**

-playUser function
-playAutoAll function
-playUser function
with a parameter
-playAuto function

**Derived Class:
PegSolitaire**

-Overridden initialize
function
-Overridden getUserIn
function
-Overridden
getRandomIn function
-Overridden setInput
function
-Overridden
movementValid
function
-Overridden move
function
-Overridden endGame
function
-Overridden print
function
-Overloaded <<
operator
-helpercheck function

**Derived Class:
EightPuzzle**

-Overridden initialize
function
-Overridden getUserIn
function
-Overridden
getRandomIn function
-Overridden setInput
function
-Overridden
movementValid
function
-Overridden move
function
-Overridden endGame
function
-Overridden print
function
-Overloaded <<
operator

**Derived Class:
Klotski**

-Overridden initialize
function
-Overridden getUserIn
function
-Overridden
getRandomIn function
-Overridden setInput
function
-Overridden
movementValid
function
-Overridden move
function
-Overridden endGame
function
-Overridden print
function
-Overloaded <<
operator

BoardGame2D

-playUser( ) = This function is a final function and it plays the game until the end of the game.
-playUser(string) = This function is the overloaded version of playUser( ). It plays only one step.
-playAuto( ) = This function plays one step automatically by getting random input.
-playAutoAll( ) = This function is a final function and it plays the game randomly until the end of the game.

PegSolitaire, EightPuzzle, Klotski Overridden Functions from the Base Class BoardGame2D

-Initialize( ) = This function initializes the board using a vector equivalent for PegSolitaire and Klotski. For EightPuzzle, it happens using randomly chosen numbers.
-getUserIn( ) = This function gets the input from the user.
-getRandomIn( ) = This function creates random inputs for autoPlay.
-setInput( ) = This function checks the validation of input.
-movementValid( ) = This function checks the validation of given movement.
-move( ) = This function moves the chosen cell towards the given direction
-endGame( ) = This function checks if the game is ended.
-print( ) = This function prints the current board.
-operator<< = This function prints the current board as an overloaded function.

PegSolitaire

helpercheck( ) = This function controls if the pegs are stuck or not.

-Peg Solitaire input = RowColumn-Direction e.g. 1E-U
-EightPuzzle and Klotski input = RowColumn-Direction e.g 12-D

-Peg Solitaire score function = Number of pegs left
-EightPuzzle and Klotski score function = Number of movements