Cse241-HW5-Report

Name-Surname : Yağız Hakkı Aydın
Number : 1901042612

How to play game:
->When user runs program,2 objects for each game gets dynamically allocated.
->Pointers of these 6 objects are collected in "games" vector.
->Static playVector function of first object gets called with created vector parameter and game starts.
->playVector function starts peg-solitare game and plays user game
->After that,it plays 8-puzzle and klotski.
->After first 3 user game ends,other games start with same order and plays automatically.
->In computer games,computer makes move for every 2 seconds(fort this,sleep() function of <unistd.h> is used)

→User enters cell position and direction for peg-solitare(D5-U , E2-L , G1-D …)
-> User enters piece number and direction for other three games(5-U , 2-L , 1-D …)

Base class of my program is "BoardGame2d".
->This base class keeps game board as 2d char vector.
->Base class keeps width and heigth of the board.
->Base class also keeps score.
->"playUser() ","playAuto()" and "playAutoAll()" functions are final virtual functions because for all child classes,these functions use "playUser(std::string &command)" function to play user game or computer game.
->"playVector()" function gets pointer vector of child classes and it plays 6 different type of games(computer and player mode of given 3 games…)

Base class has 3 child classes ("PegSolitare"," Klotski"," EightPuzzle")

->Child classes has overriden "playUser(std::string &command)", "endGame()","initialize()","print()","boardScore()","isCommandValid()" and "generateRandomValidCommand()" functions.

->These overriden functions runs in a similar way according to specific properties of each three games.

->boardScore() functions returns score of the game at the moment.

->For peg solitare,score is calculated with how many succesfull moves done,it's zero if one pegged cell left.

->For 8-puzzle,score is calculated with how many numbers are in different position than ended game,it's zero if all of the numbers in correct position.

->For klotski,score is calculated with how close red position to the bottom,it's zero if red block reaches to the bottom level.