Demo of Biquadris Project

For the following overview, let <x> represent some whole number that the user inputs and <c> represent a valid reference to a command.

Rules to consider for user input (more than one of the rules can apply to a single input):

1. *For commands that do require a magnifier, <x><c> = 1<c>*
2. *For commands that do not require a magnifier, <x><c> = <c>*
3. *<c><d> = <c> where <d> is a string of random characters*
4. *When <b> is a shortened form of <c> and is not a shortened form of any other commands, <b> = <c>*

Command	Description (assumes that magnifier is given)	Example Input
left	Moves the block to the left by the number of times specified by the magnifier or to the first column	`left`, `lef`, `<x>left`, `<x>lef`
right	Moves the block to the right by the number of times specified by the magnifier or to the last column	`right`, `rig`, `<x>right`, `<x>rig`
down	Moves the block to the down by the number of times specified by the magnifier or to the last row	`down`, `do`, `<x>down`, `<x>do`
clockwise	Rotates the block clockwise by 90 degrees by the number of times specified by the magnifier. When performing a rotation, ensure that there is sufficient space for a rotation.	`clockwise`, `clock`, `<x>clockwise`, `<x>clock`
counterclockwise	Rotates the block counterclockwise by 90 degrees by the number of times specified by the magnifier. When performing a rotation, ensure that there is sufficient space for a rotation.	`counterclockwise`, `<x>counterclockwise`, `<x>counterclock`
drop	Drops x number of blocks to the most possible bottom, in the column that it is currently in	`drop`, `dr`, `<x>drop`, `<x>dr`
levelup	Increases the level by the number of times specified by the magnifier or to level 4	`levelup`, `levelu`, `<x>levelup`, `<x>levelu`
leveldown	Decreases the level by the number of times specified by the magnifier or to level 0	`leveldown`, `leveld`, `<x>leveldown`, `<x>leveld`
norandom <file>	Used in level 3 and level 4 to read specified blocks from the text file	`norandom <file>`, `noran <file>`, `norand <file>`
random	Used in level 3 and level 4 to restore randomness	`random`, `ran`, `rand`
sequence <file>	Consumes input from a specified text file	`sequence <file>`, `seq <file>`, `seque <file>`
All blocks (e.g. I, O, S)	Forces the current block to become the one specified	`I`, `O`, `S`, `J`, `L`, `Z`, `T`
restart	Clears all the cells of the board	`restart`, `res`, `<x>restart`, `<x>res`
rename	Adds a new reference to a command so that it executes same command	`rename <o> <n>`, `ren <o> <n>`, `<x>ren <o> <n>`, where o is the primary reference to the old command and n is the new command reference

hint	Places the block for you in any valid location looking for a spot from the bottom left to top right of board	`hint`, `hin`, `<x>hintqwerty`
stopgame	Terminates game for both player despite their scores	`stopgame`, `stop`, `<x>stoqwerty`

For each of the following demos, start the program by running the specified command-line input with each command under the commands column individually. A description of features is provided at each stage of the demo.

Scoring Demo	
Command Line	`./biquadris -scriptfile1 score_script.txt -startlevel 4`
Commands	**Description**
sequ score.txt	Reading in commands from score.txt file using the sequence command
sequ fill.txt	Reading in commands from fill.txt file using the sequence command
drop	When you drop the block, the turn ends and an updated score is calculated. As seen on the display(s), there are eight blocks on player one's board. After we drop our current block five blocks will be completely removed. Then the score (and highscore if applicable) is updated as follows: Let RP denote the removed blocks points and SMC denote the lines simultaneously completed. $RP = (Level\,Generated + 1)^2$ $SMC = (Level + Lines\,Completed)^2$ $Score = Score + RP + SMC$ $E.g.\ Score = 0 + 5(4 + 1)^2 + (4 + 2)^2 = 161$

norandom and random Demo	
Command Line	`./biquadris -startlevel 3`
Commands	**Description**
seq fill.txt	Uploading a filler (`sequence`) of commands for player 1.
seq rand1.txt	norandom command is called and specifies the onlyi.txt file. onlyi.txt contains only the I block. This can be seen from the blocks dropped
2leveld 4dr	Notice when we go down two levels the blocks are randomized again. This is because (`norandom`) and (`random`) only apply to level 3 and level 4 (now we are in level 2).
seq rand2.txt	We increase our level back to level 3 and the (`norandom`) effect is restored. This can be seen as there are only I blocks being generated.
seq rand3.txt	Now we apply the (`random`) and the blocks generated in level 3 and 4 are randomized again.

Extra Credit: rename Demo	
Command Line	`./biquadris`
Commands	**Description**
rename counterclockwise cc	Adding a (`rename`) command called cc which has the same effect as (`counterclockwise`).
rename sequence moves	Adding a (`rename`) command called moves which has the same effect as (`sequence`).
cc	cc (`counterclockwise`) rotates the current block 90 degrees to the left.
moves fill.txt	Moves (`sequence`) calls the sequence of commands in fill.txt for the player.
moves fill.txt	Moves (`sequence`) calls the sequence of commands in fill.txt for the player.

Hint Demo	
Command Line	`./biquadris -seed 246 -startlevel 2`
Commands	**Description**
hint hint	Hint moves the block into the first available position.
seq hint.txt	Calls hint repeatedly.
seq hint.txt	Calls hint repeatedly.

Special Effects Demo	
Command Line	`./biquadris -scriptfile1 score_script.txt -startlevel 4`
Commands	**Description**
seq score.txt seq fill2.txt	Setting (`sequence`) of commands for player one and two.
drop Blind	Notice when we (`drop`) the current block we will clear 2 lines. This means a special action is triggered. The Blind option blinds the opponent's board.
2dow lef	Cells of blocks that are moved into the blinded area are hidden from the player.
seq fill2.txt seq score.txt drop	Setting up the boards to see the next special action.
drop Heavy	We clear two lines simultaneously so a special action is triggered. We call the Heavy option.
2down ri	Moving this block demonstrates the heaviness of the heavy block (dropping 2 rows each move).
seq fill2.txt seq score.txt drop	Setting up the boards to see the next special action.
drop Force J	To explore the last special action we use the Force option to force the block to be of type J.