CPSC 3620 Term Project

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Compiling

-To compile this program, ensure that all 7 files are in there own directory (main.cpp, Board_Tile.cpp, Board_Tile.h, Sliding_Solver.cpp, Sliding_Solver.h, directions.h, and makefile)

Board_Tile.cpp	2020-04-04 9:21 PM	C++ Source	4 KB
Board_Tile.h	2020-04-03 12:14 PM	C/C++ Header	3 KB
directions.h	2020-04-03 12:15 PM	C/C++ Header	1 KB
main.cpp	2020-04-04 10:09 PM	C++ Source	5 KB
makefile	2020-04-04 10:03 PM	File	1 KB
Read_me	2020-04-04 10:39 PM	OpenDocument T...	44 KB
Sliding_Solver.cpp	2020-04-03 12:35 PM	C++ Source	3 KB
Sliding_Solver.h	2020-04-04 9:55 PM	C/C++ Header	2 KB

-Once they are all in the same directory, with no extra .cpp or .h files as that could mess with compilation, type ‘make’. This will compile the program into an executable. You may get a make error saying that ‘this file requires compiler and library support for the ISO C++ 2011 standard’ etc. The proper flags are in place in the makefile, but it still sometimes give this error. It does NOT prevent compilation.

```
dsm6069@DESKTOP-AV8FQ61:/mnt/e/TermProject$ make
g++ -I. -MM main.cpp > main.d
g++ -I. -MM Sliding_Solver.cpp > Sliding_Solver.d
g++ -I. -MM Board_Tile.cpp > Board_Tile.d
g++ -std=gnu++11 -Wall -Wextra -I. -c Board_Tile.cpp -o Board_Tile.o
g++ -std=gnu++11 -Wall -Wextra -I. -c Sliding_Solver.cpp -o Sliding_Solver.o
g++ -std=gnu++11 -Wall -Wextra -I. -c main.cpp -o main.o
g++ Board_Tile.o Sliding_Solver.o main.o -o main
```

-After compiling the program, one needs to run it to use it. Do this by typing ‘./main’ to enter into the program.

```
dsm6069@DESKTOP-AV8FQ61:/mnt/e/TermProject$ ./main
```

Running

Once the program is running, you will be greeted by this screen:

```
Enter each puzzle you would like to test in a nine digit string,
Followed by, on the next line the configuration you would like to end with.
For example:
>132475680
>123456780
Enter 'END' at any time to end input and see the solutions to the puzzles.
Initial Configuration 1:
```

This explains how to use the program. You may enter as many puzzles to solve as you'd like in pairs of initial and goal configurations. If you enter a configuration that does not fall into the constraints of having 9 distinct integers from 0 to 8 inclusive, you will see a screen similar to this:

```
Initial Configuration 1: 32df5s9f

ERROR: Config is not 9 digits long
ERROR: Config includes alphas
ERROR: Some numbers in this config are out of range.
ERROR: There are duplicate numbers in this config
Please input a valid puzzle configuration of 9 distinct integers
```

This tells you what is wrong with your configuration and allows you to try again. To exit input and see the solutions to your inputted puzzles, type 'END' at any time.

```
Initial Configuration 1: 213456780

Goal Configuration 1: 123456780

Initial Configuration 2: END
```

Please note that if you have only inputted an initial configuration and no goal, then that configuration will be discarded.
After ENDing the input you will see the solutions, if they exist, to your puzzles:

Start Board	Goal Board	Number Of Moves	Solution
124536708	123456780	15	RULLURRDLULDRRD
123456780	123456780	0	
123456870	123456780	NO SOLUTION	

Press enter to exit the program at this point. To use it again, just type ./main, as you have already compiled it.