HW4
ECE 479/579 Fall 2014
Due Dec 9th 11:59pm

You are to write a program which performs forward planning in the blocks world. Use the forward chaining rules as discussed in class. Your program should take a file name as input an argument. This input file will have the names of the blocks, the initial state, and the goal state. Your program should find the minimum number of moves required to move from the initial state to the goal state and it should produce a list of the actions performed and the resulting state.

Example Input File:

```
BLOCKS:
A, B, C, D

INITIAL STATE:
ON_TABLE(A)
CLEAR(A)
ON_TABLE(B)
CLEAR(B)
ON_TABLE(C)
ON(D,C)
CLEAR(D)
HE

GOAL STATE:
ON_TABLE(A)
ON(B,A)
ON(C,B)
HOLDING(D)
```

Example Program C input:

```
./hw4 block_tower.txt
```

Example Matlab input:

```
hw4('block_tower.txt')
```

Example output (The tab character \t, can help this look nice):

```
PICKUP(B)      : ON_TABLE(A), CLEAR(A), ON_TABLE(C), ON(D,C), CLEAR(D), HOLDING(B)
STACK(B, A)    : ON_TABLE(A), ON(B,A), CLEAR(B), ON_TABLE(C), ON(D,C), CLEAR(D), HE
UNSTACK(D, C)  : ON_TABLE(A), ON(B,A), CLEAR(B), ON_TABLE(C), CLEAR(C), HOLDING(D)
PUTDOWN(D)     : ON_TABLE(A), ON(B,A), CLEAR(B), ON_TABLE(C), CLEAR(C), ON_TABLE(D), CLEAR(D), HE
PICKUP(C)      : ON_TABLE(A), ON(B,A), CLEAR(B), ON_TABLE(D), CLEAR(D), HOLDING(C)
STACK(C, B)    : ON_TABLE(A), ON(B,A), ON(C,B), CLEAR(C), ON_TABLE(D), CLEAR(D), HE
PICKUP(D)      : ON_TABLE(A), ON(B,A), ON(C,B), CLEAR(C), HOLDING(D)

7 Moves performed
```