

Chess AI Player Task 13: Be able to Remove Pieces

Abstract: The goal of this task was for pieces to attack pieces of the opposite color. Also in this task two lists were created in order to keep track of what pieces are still in the game and able to be used by each of the players. During this task the game over method was created which just checks if the black king or the white king were taken in the last round.

Demo:

```
It is the W player's turn
Enter start square: f4
Enter end square: c7
```

8	BR	BN	BB	BK	--	BQ	BN	BR
7	BP	BP	WB	BP	BP	BP	BB	--
6	--	--	--	--	--	--	--	BP
5	--	--	--	--	--	--	WN	--
4	--	--	--	--	--	--	--	--
3	--	--	--	WP	--	--	--	--
2	WP	WP	WP	--	WP	WP	WP	WP
1	WR	WN	--	WQ	WK	WB	--	WR
	A	B	C	D	E	F	G	H

8	BR	BN	BB	BK	--	BQ	BN	BR
7	BP	BP	WB	--	BP	BP	BB	--
6	--	--	--	--	--	--	--	BP
5	--	--	--	BP	--	--	WN	--
4	--	--	--	--	--	--	--	--
3	--	--	--	WP	--	--	--	--
2	WP	WP	WP	--	WP	WP	WP	WP
1	WR	WN	--	WQ	WK	WB	--	WR
	A	B	C	D	E	F	G	H

It is the W player's turn

Enter start square: **f7**

Enter end square: **d8**

Invalid Move Chosen |-----|

8	BR	BN	BB	BK	--	BQ	BN	BR
7	BP	BP	WB	--	--	BP	BB	--
6	--	--	--	--	BP	--	--	BP
5	--	--	--	BP	--	--	WN	--
4	--	--	--	--	--	--	--	--
3	--	--	--	WP	--	--	--	--
2	WP	WP	WP	--	WP	WP	WP	WP
1	WR	WN	--	WQ	WK	WB	--	WR
	A	B	C	D	E	F	G	H

W PLAYER WINS

GAME OVER

NIL

Code:

```
( defmethod remove-bpiece ( ( piece piece ) )
  ( setf *black-pieces* ( remove piece *black-pieces*) )
)

( defmethod remove-wpiece ( ( piece piece ) )
  ( setf *white-pieces* ( remove piece *white-pieces*) )
)

( defmethod remove-piece( ( piece piece ) &aux color )
  ( setf color ( color piece ) )
  ( cond
    ( ( eq color 'w ) ( remove-wpiece piece ) )
    ( ( eq color 'b ) ( remove-bpiece piece ) )
  )
)

( defmethod move ( ( curr-square square ) ( dest-square
square ) &aux color )
  ( setf color ( color ( occupier curr-square ) ) )
  ( if ( occupier dest-square )
    ( remove-piece ( occupier dest-square ) )
  )
  ( if ( legal-move ( occupier curr-square ) dest-square )
    ( move-piece ( occupier curr-square ) dest-square )

    ( format t "Invalid Move Chosen" )
  )
)
```