

# Chess Demo Outline

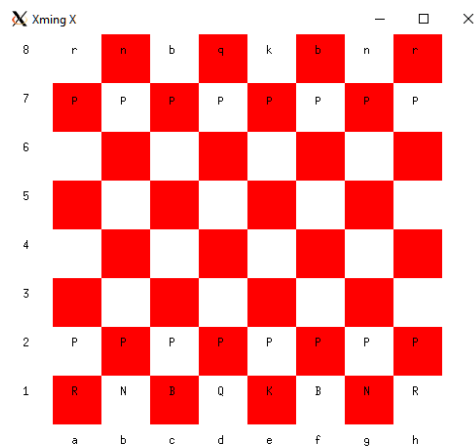
## Basic game operations

```
game (player) (player) : human/comp1/comp2/comp3/comp4
(board type) : default/setup
move (initial-pos final-pos) : e2 e4/ a1 b2
resign
EOF : ctrl + d
```

## Default configuration

The following command begins the chess program and

```
game human human
default
resign
<EOF>
```



```
Welcome to Chess: CS246 Edition
if you'd like to begin a new game type in: game white-player black-player
game human human
if you would like to play a default game of chess type in: default
if you would like to configure the board to your liking type in: special
default
8 rnbqkbnr
7 pppppppp
6 -----
5 -----
4 -----
3 -----
2 PPPPPPPP
1 RNBQKBNR

  abcdefgh
here are a list of supported commands:
resign: concedes the game to your opponent
move rowcol_from rowcol_to: enter the xy coordinate for the position you'd
it is white's turn:
resign
Black wins!
```

## Bonus Features

Computer Lv 4+ (enter a number upto 9 for computer level)

```
game comp1 comp6
default
move
//enter moves as many times as you'd like to continue the game
resign
```

This test demonstrates pawn moves, capturing of and with pawns and finally pawn promotion

```
game human human
default
move e2 e4
move d7 d5
move e4 d5
move e7 e6
move d5 e6
move h7 h5
move e6 e7
move h5 h4
move e7 f8 Q
resign
<EOF>
```

## Players

### Human vs Human

```
game human human
default
move f2 f3
move e7 e5
move g2 g3
move d8 h4
<EOF>
```

### Human vs Comp 3

```
game human comp3
special
+ k h8
+ K a1
+ Q g1
+ R f1
+ q b8
+ r c8
done
//you can play with the computer yourself here or play the following moves
("move" is comp's play)
move g1 d4
move
```

```
move d4 e5
move
move f1 g1
move
move e5 g7
resign
<EOF>
```

#### Comp 1 vs Comp1

```
game comp1 comp1
default
//type move to play a move or resign to forfeit the match
<EOF>
```

#### Copm2 vs Comp3

```
game comp2 comp3
default
//type move to play a move or resign to forfeit the match
<EOF>
```

#### Comp1 vs Comp4

```
game comp1 comp4
default
//type move to play a move or resign to forfeit the match
<EOF>
```

### Setup

This test demonstrates the various operations possible in the setup environment and shows that the conditions must be satisfied before exiting this phase.

```
game human human
special
+ K e1
+ k e8
+ K a4
done
+ p a4
+ P h1
done
- h1
```

```
+ Q e4
done
- d4
- e4
= black
done
resign
<EOF>
```

Tests out if the removal of a king updates the vectors and board

```
game human human
special
+ k a4
+ k e3
done
- e3
done
+ K a6
done
resign
<EOF>
```

Tests out checkmate outcome using Fool's Check method

```
game human human
default
move f2 f3
move e7 e5
move g2 g4
move d8 h4
<EOF>
```

Tests out 'Black/White is in check' functionality

```
game human human
default
move e2 e4
move e7 e5
move f1 c4
move g8 f6
move d1 f3
```

```
move f6 e4
move f3 f7
resign
<EOF>
```

Tests out castling functionality for KingSideCheck for black and white

```
game human human
default
move e2 e4
move e7 e5
move d2 d4
move d7 d5
move g1 f3
move g8 f6
move f1 c4
move f8 c5
move c1 f4
move c8 f5
move b1 c3
move b8 c6
move d1 d2
move d8 d7
move e1 g1
move e8 g8
resign
<EOF>
```

Tests out castling functionality for QueenSideCheck for black and white

```
game human human
default
move e2 e4
move e7 e5
move d2 d4
move d7 d5
move g1 f3
move g8 f6
move f1 c4
move f8 c5
move c1 f4
move c8 f5
move b1 c3
```

```
move b8 c6
move d1 d2
move d8 d7
move e1 c1
move e8 c8
resign
<EOF>
```

Should not be able to KingSideCastle, should output 'invalid moveL the move you made is illegal'

```
game human human
default
move f2 f4
move e7 e5
move g2 g4
move d8 g5
move f1 h3
move g5 g4
move g1 f3
move d7 d6
move e1 g1
resign
<EOF>
```

Should not be able to QueenSideCastle, should output 'invalid moveL the move you made is illegal'

```
game human human
default
move c2 c4
move c7 c5
move b2 b4
move d8 a5
move c1 a3
move a5 b4
move b1 c3
move h7 h6
move d1 c2
```

```
move h6 h5
move e1 c1
resign
<EOF>
```

## Grandmaster game test with many operation

```
game human human
default
move c2 c4
move e7 e5
move g2 g3
move b8 c6
move f1 g2
move g7 g6
move b1 c3
move f8 g7
move e2 e4
move d7 d6
move g1 e2
move f7 f5
move d2 d3
move g8 f6
move e1 g1
move e8 g8
move e4 f5
move c8 f5
move h2 h3
move h7 h5
move c1 e3
move d8 d7
move g1 h2
move a8 e8
move d1 d2
move c6 b4
move c3 e4
move c7 c5
move e2 c3
move f6 e4
move c3 e4
move b4 c6
move a1 b1
move b7 b6
move a2 a3
move c6 d4
move e3 d4
move e5 d4
move h3 h4
move g7 f6
move b2 b4
move g8 g7
move a3 a4
move f5 e4
move g2 e4
```

```
move d7 a4
move b1 a1
move a4 b4
move a1 a7
move e8 e7
move a7 e7
move f6 e7
move d2 e2
move e7 d8
move f1 a1
move f8 f7
move a1 a8
move d8 f6
move e4 d5
move f7 e7
move e2 f3
resign
<EOF>
```