

SUSPECTS

Col. Mustard
Prof. Plum
Mr. Green
Mrs. Peacock
Miss Scarlet
Mrs. White

WEAPONS

Knife
Candlestick
Revolver
Rope
Lead Pipe
Wrench



ROOMS

Hall
Lounge
Dining Room
Kitchen
Ball Room
Conservatory
Billiard Room
Library
Study

Clue

SUSPECTS

Col. Mustard
Prof. Plum
Mr. Green
Mrs. Peacock
Miss Scarlet
Mrs. White

WEAPONS

Knife
Candlestick
Revolver
Rope
Lead Pipe
Wrench



ROOMS

Hall
Lounge
Dining Room
Kitchen
Ball Room
Conservatory
Billiard Room
Library
Study

Clue

	P1:	P2:	P3:	P4:	P5:	P6:	Secret:
#Cards							3
#Known							
Ballroom							
Billiard							
Constrvtry							
Dining							
Hall							
Kitchen							
Library							
Lounge							
Study							
Candlstk							
Knife							
Pipe							
Revolver							
Rope							
Wrench							
Green							
Mustard							
Peacock							
Plum							
Scarlett							
White							

~~④ If a card is showed to you, mark "no" "X"~~

Instructions

① Fill in player names in order of turns

② " " number of cards for each person

③ " " cards that are in your hand "O"s

~~④ " " " " " not in your hand "X"s~~

~~⑤ " " that your cards are not in any other hand or the~~

~~case file "X" ⑤ Whenever you mark a "O" mark "X"s for all other players for that card~~

⑥ When a player cannot disprove a suggestion, mark "X" in the appropriate positions

⑦ When a player shows you a card, mark "O" in the appropriate box

⑧ When a player shows another player a card, and you do not know the first player has any of the three ^(no "O"s) cards, mark the non "X"s with a number {1, 2, ...}

⑨ If you ever mark a "O" in a box that had a number in it, erase numbers that match, thereby assuming player showed same card

⑩ Whenever a "O" is marked, mark "X" for the other players for that card

⑪ If player has same number of possibilities as unknown cards, mark all those possibilities as "O"

⑫ If all of a player's cards are known, mark other possibilities "X"

⑬ If all but one card in a category are accounted for, that card is in the case file "O"

⑭ If no player has a card "X", it must be in the case file "O"

⑮ If "X" replaces numbers, check for lone numbers

⑯ If all three cards in the case file are known "O", you win

⑰ If lone number found, mark it "O"

3 → 10, 12	6 → 16, 11, 14	7 → 9, 10, 12, 13	8 → 17	13 → 15
16 → 17	17 → 10, 12, 13	10 → 11, 16	11 → 13	12 → 14
			14 → 15	

Notation C_P $\left| \begin{array}{l} i_p \in [0, \#players] \\ i_c \in [0, \#cards] \\ \text{indices} \end{array} \right| \begin{array}{l} \text{case file} \\ (\#players + 1) (\#cards) \\ \text{total atomic sequences} \end{array}$

$$\text{Goal} \# = i_p \times \#cards + i_c + 1 \in$$

clauses \rightarrow monotonically growing knowledge base

query clauses \rightarrow temporary, often-changing set of clauses

Objects and their attributes

Guess: guesser, person, place, thing, ~~shower~~, card
or NULL or NULL

~~Show: shower, person, place, thing, shower~~

numPlayers

playerNum

numCards

casefile

players = [. .]

suspects = [. .]

weapons = [. .]

rooms = [. .]

cards = [suspects, weapons, rooms]

mu	kn	ha
pl	ca	lo
gr	re	di
pe	ro	ki
sc	pi	ba
wh	wr	co
		bi
Cf		li
		st

Knowledge

① Each card is in exactly one place

② One card of each type is in the case file. (exactly one)

Initial HAND

① You know what is in your hand is NOT in anyone else's.

② You know how many cards each player has

③ You know the order of the players

suggest("sc", "wh", "pi", "ha", "pe", "ha")

(suggester, suspect, weapon, room, revealer, revealedcard)

revealedcard can be NULL; revealer can also be NULL

accuse("sc", "wh", "pi", "ha", FALSE)