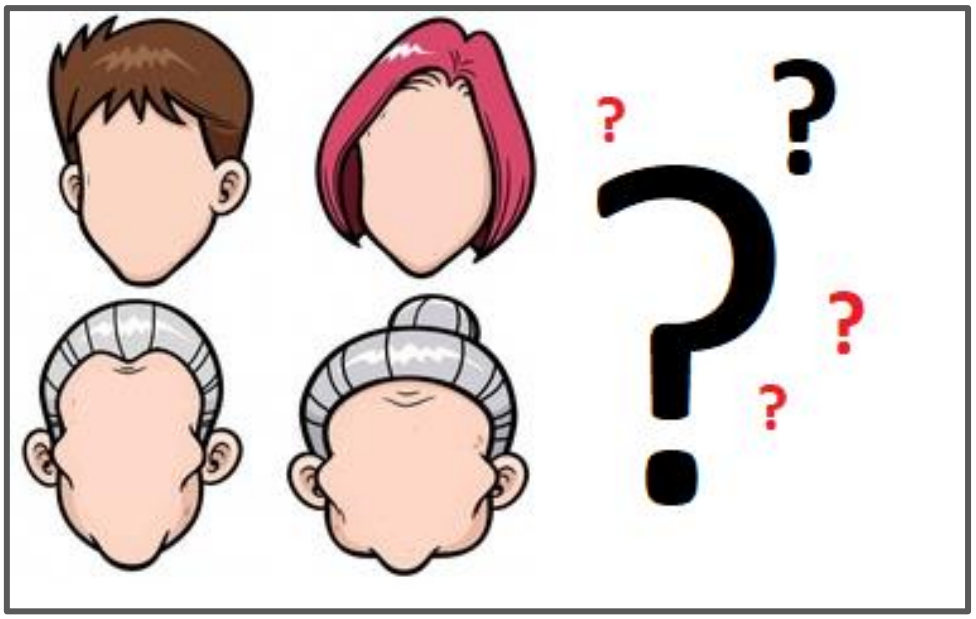
GUESS THE MURDERER GAME



Project for

Information Systems D: Declarative Problem-Solving Methods Course

27th September 2018

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Table of Contents

1. Project Plan

Task	Assigned to	Start Date	Finish Date	Work (in hours)	Notes
Group meeting to discuss project components, strategy and roles	MB, HH, WE	11-sep	-	1	
Introduce a number of tools to help in planning, sharing and implementation	MB	11-sep	11-sep	1	GitHub, Trello, draw.io, OneDrive
Prepare project plan	WE	12-sep	14-sep	3	
Write program purpose	MB, HH, WE	12-sep	14-sep	3	
Prepare program structure	WE	12-sep	14-sep	3	diagram/flowchart using draw.io tool
Prepare UI description	HH	12-sep	14-sep	3	
Write program code	MB	14-sep	19-sep	6	
Write testing report	MB	14-sep	19-sep	4	
Write user manual	HH, WE	14-sep	19-sep	4	
Prepare report structure	WE	16-sep	16-sep	2	
Group meeting to review project plan, purpose, structure, UI description	MB, HH, WE	14-sep	-	1	
Group meeting to review the code and testing report	MB, HH, WE	17-sep	-	1	
Project meeting to show progress	MB, HH, WE	21-sep	-	1	code, draft project plan, program purpose and structure
Group meeting to review the code and testing report	MB, HH, WE	25-sep	-	1	
Review and finalize the report	WE	25-sep	26-sep	4	
Meet with opponent group to understand their project and explain ours	MB, HH, WE	24-sep	25-sep	2	
Project submission on student portal	MB, HH, WE	27-sep	-	1	
Prepare opposition report	MB, HH, WE	27-sep	27-sep	4	
Group meeting to finalize the report and prepare for presentation of opponent group	MB, HH, WE	27-sep	-	1	
Presentation of opponent group	MB, HH, WE	28-sep	-	1	

Group Members	Initials
Mikhail Boronin	MB
Hongyu He	HH
Wafaa Elbaghdady	WE

2. Programming Manual

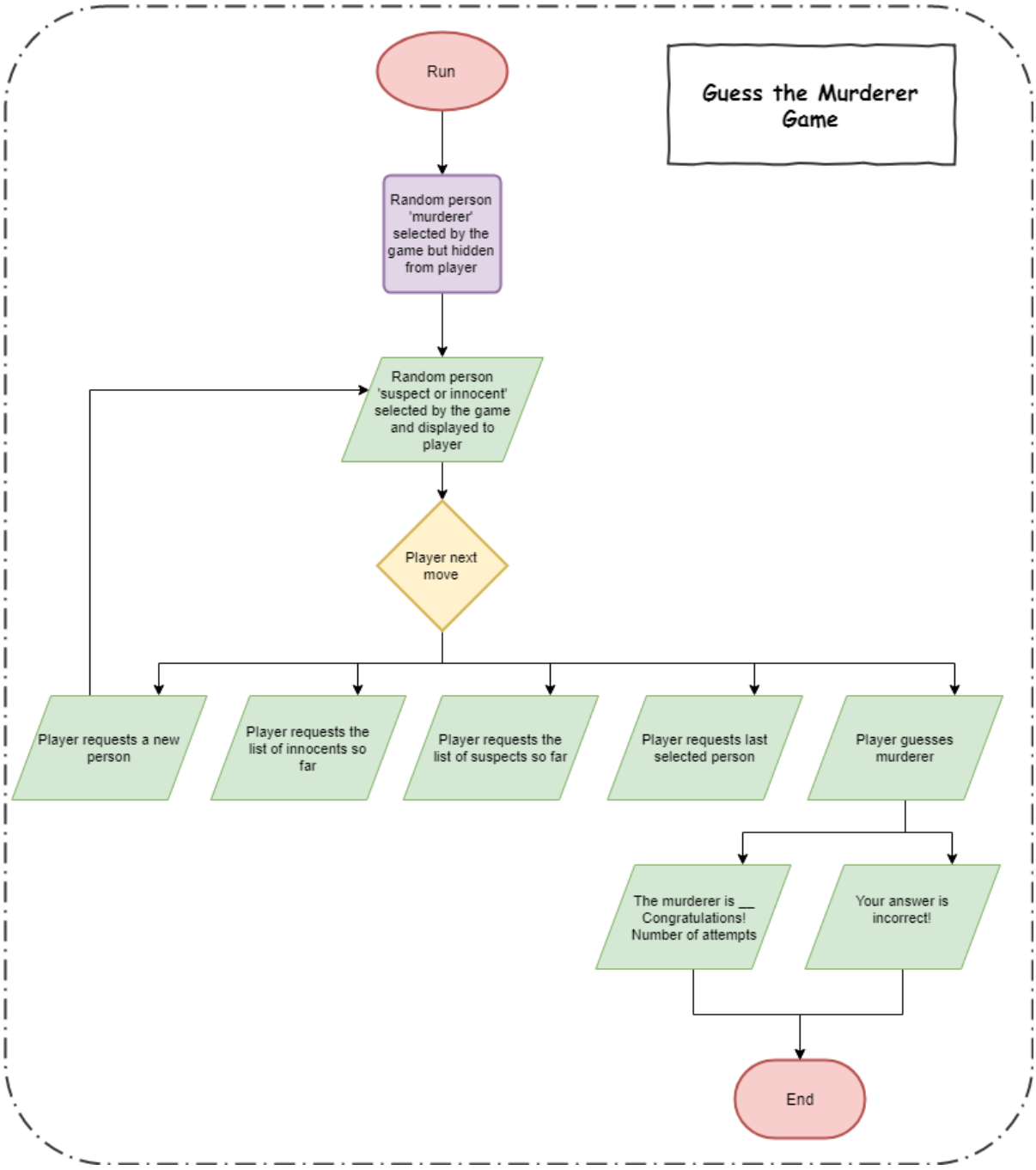
2.1 Program Purpose

The game is about finding the murderer who committed the crime. The player will be given random clues until he/she is ready to guess who the murderer was. Every clue is a combination of features describing either a suspect or an innocent person.

A suspect has at least one feature that matches the features of the murderer, while an innocent person has nothing in common with the murderer.

The features are age/gender, colour of clothes and weapon used in the murder. To guess the murderer, the player should give the value of the three features and if they all match the murderer description, the player wins. The challenge is to give a guess with the least number of suspects and innocents displayed during the game as clues.

2.2 Program Structure



2.3 User Interface

1. **Rule Introduction**

output: 'Rule introduction - A person was murdered, and the murderer is unknown until the end of the game. Each person has a unique combination of attributes. You can make a guess of the murderer with his/her attributes. Before guessing you can ask for random clues which will show attributes of a person and whether he/she is suspect or innocent. A person is considered a 'suspect' if at least one attribute matches those of the murderer. A person is considered an 'innocent' if no attributes matches the murderer's. Clear now?

Yes, I get it! - Select 1.

No, I haven't known the rule clearly. - Select 2.'

if input: '1.'

Go to 2.1.

else if input: '2.'

output: 'We can´t continue the game for now, read the manual once again'

else output: 'Incorrect Input, try again: ',

Go to 1.

2. **Functions**

2.1 Functions catalogue

output: To ask for a new clue - Select 1.

To guess the murderer - Select 2.

To view the last clue - Select 3.

To view all suspects - Select 4.

To view all innocents - Select 5.

To exit the game - Select 6.

if input: '1.'

Go to 2.2.

else if input: '2.'

Go to 2.3.

else if input: '3.'

Go to 2.4.

else if input: '4.'

Go to 2.5.

else if input: '5.'

Go to 2.6.

else if input: '6.'

Go to 2.7.

else output: 'Incorrect Input, try again: ',

Go to 2.1.

2.2 To ask for a new clue

if there are new clues can be given

output: '[A,C,W]-M',

Go to 2.1.

else output: 'No more clues left',

Go to 2.1.

2.3 To guess the murderer

2.3.1 To give a guess in age&gender

output: 'Input the first parameters for your guess. Available options are: …. Type below'

if input: age&gender in the list

Go to 2.3.2.

else output: 'Incorrect Input, try again: ',

Go to 2.3.1.

2.3.2 To give a guess in colour

output: 'Input the second parameters for your guess. Available options are: …. Type below'

if input: colour in the list

Go to 2.3.3.

else output: 'Incorrect Input, try again: ',

Go to 2.3.2.

2.3.3 To give a guess in weapon

output: 'Input the third parameters for your guess. Available options are: …. Type below'

if input: weapon in the list

Go to 2.3.4.

else output: 'Incorrect Input, try again:',

Go to 2.3.3.

2.3.4 Compare guess with murderer

If the guess is right

output: 'Congratulations! You were right! The murderer is …. You have used ... number of clues. We are ending the game now. See you next time!'

else output: 'You lost! The murderer is …. You have used ... number of clues. We are ending the game now. See you next time!'

2.4 To view the last clue

if there is shown clue

output: [A,C,W]-M,

Go to 2.1.

else output: 'You have not used any clues so far',

Go to 2.1.

2.5 To view suspects so far

if there is shown suspect

output: 'All the checked suspects are here: …',

Go to 2.1.

else output: 'The were no shown suspects so far'

Go to 2.1.

2.6 To view innocents so far

If there is shown innocent

output: 'All the checked innocents are here: …',

Go to 2.1.

else output: 'The were no shown innocents so far'

Go to 2.1.

2.7 To exit the game

output: 'The murderer is …. You have used ... number of clues. We are ending the game now. See you next time!'

Click here to view Input and output diagram.

2.4 Program Code

The code is available as separate file main.pl

Also is available here.

2.5 Testing

Test file is available as separate file test.pl.

Also is available here.

Test 001	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if it is possible to get a clue	User Input: No input
Actual Output: 1 clue	Expected Output: 1 clue
Passed/Failed: P	

Test 002	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if murderer has been checked correctly	User Input: No input
Actual Output: win of the game	Expected Output: win of the game
Passed/Failed: P	

Test 003	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if murderer has been checked correctly	User Input: No input
Actual Output: loss of the game	Expected Output: loss of the game
Passed/Failed: P	

Test 004	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if suspects are printed correctly	User Input: No input
Actual Output: 4 clues, 0..4 suspects	Expected Output: 4 clues, 0..4 suspects
Passed/Failed: P	

Test 005	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if innocents are printed correctly	User Input: No input
Actual Output: 4 clues, 0..4 innocents	Expected Output: 4 clues, 0..4 innocents
Passed/Failed: P	

Test 006	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if innocents are printed correctly	User Input: No input
Actual Output: No innocents are in the game so far	Expected Output: No innocents are in the game so far
Passed/Failed: P	

Test 007	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check if suspects are printed correctly	User Input: No input
Actual Output: No suspects are in the game so far	Expected Output: No suspects are in the game so far
Passed/Failed: P	

Test 008	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check the exit from the game	User Input: No input
Actual Output: murderer, number of received clues	Expected Output: murderer, number of received clues
Passed/Failed: P	

Test 009	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check the exit from the game	User Input: No input
Actual Output: 3 clues, murderer, number of received clues	Expected Output: 3 clues, murderer, number of received clues
Passed/Failed: P	

Test 010	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check printLatest function	User Input: No input
Actual Output: Print 2 clues, latest clue.	Expected Output: Print 2 clues, latest clue.
Passed/Failed: P	

Test 011	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check printLatest function	User Input: No input
Actual Output: No clues has been used	Expected Output: No clues has been used.
Passed/Failed: P	

Test 012	
Tester Name: Mikhail Boronin	Date: 26/09/2018
Test Description: Check the case with no clues left	User Input: No input
Actual Output: No more clues left	Expected Output: No more clues left
Passed/Failed: P	

3. User Manual

Getting started

Solve the crime and win the game by guessing the descriptions of the real murderer.

Introduction

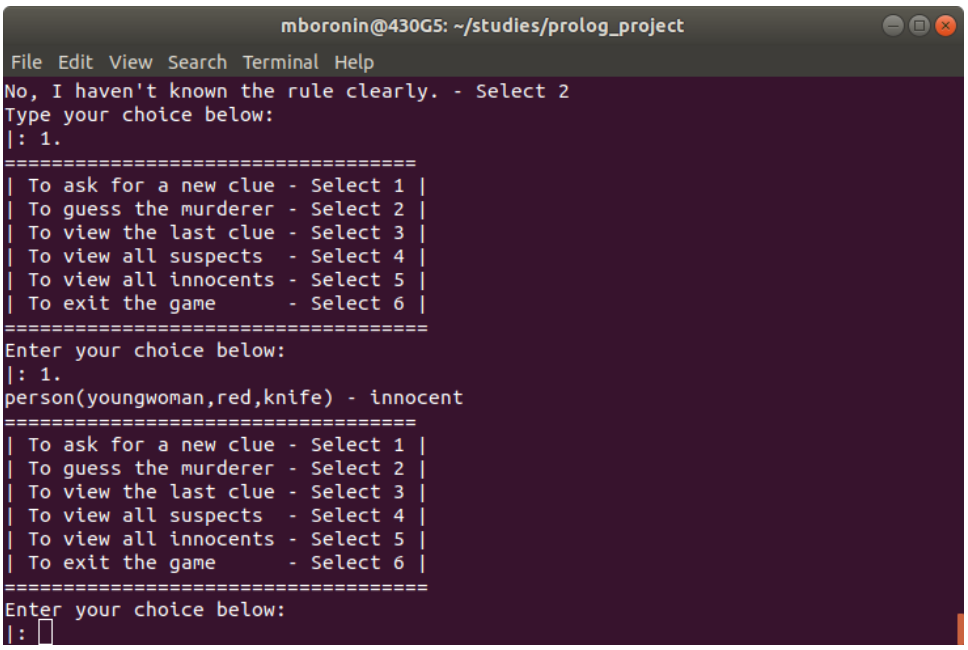
During the game you can ask for new clues until you are able to guess the murderer. The randomly displayed persons will be either categorized to suspects or innocents. Then you will be able to view the suspects or innocents generated by the game so far. If you still do not know who the murderer is, you can ask for new clues until you can make a guess.

Functions

This part explains how to play the game by using different functions.

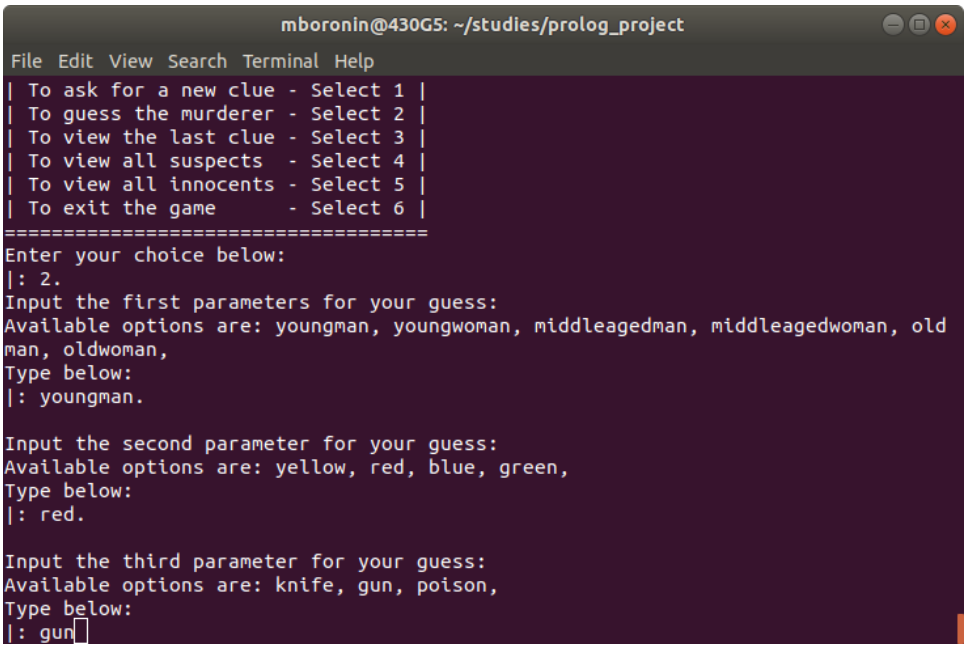
a. To ask for a new clue

If you do not have any idea or not sure about who the murder is, you can ask for a new clue here. Once you ask for a new clue, it shows a new person with his/her attributes and whether he/she is suspect or innocent.

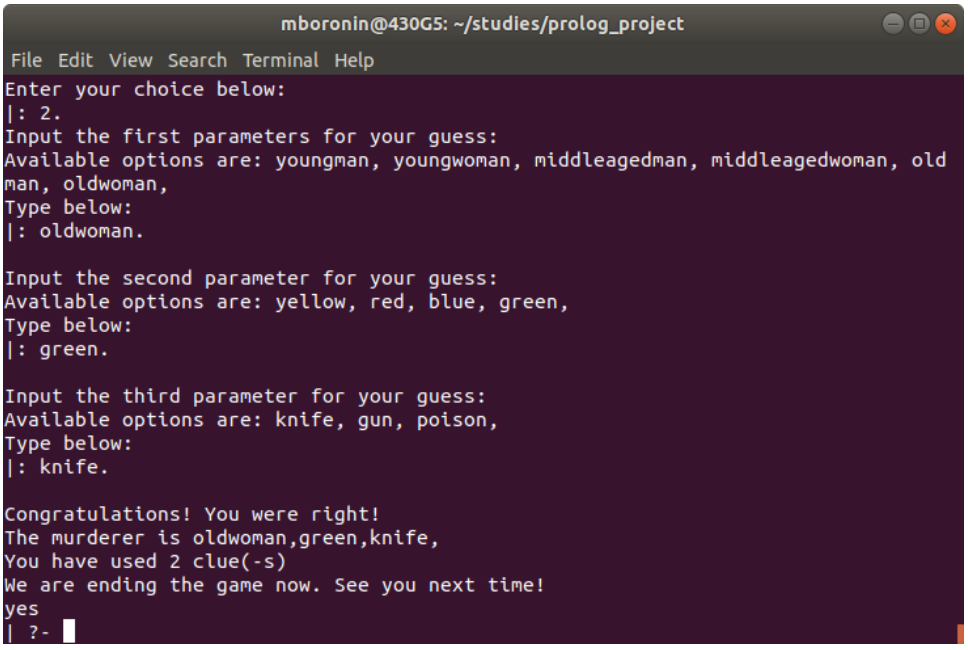


b. To guess the murder

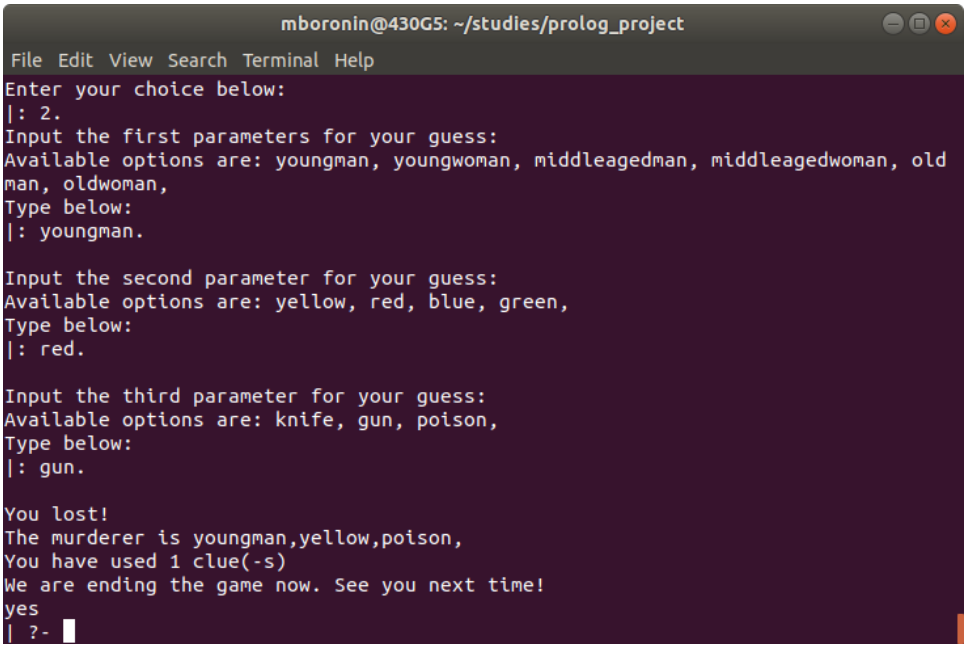
When you are ready to guess who the murderer is, here you can make a guess by choosing attributes in age and gender, dress color and weapon respectively.



If your guess is right, you win the game.

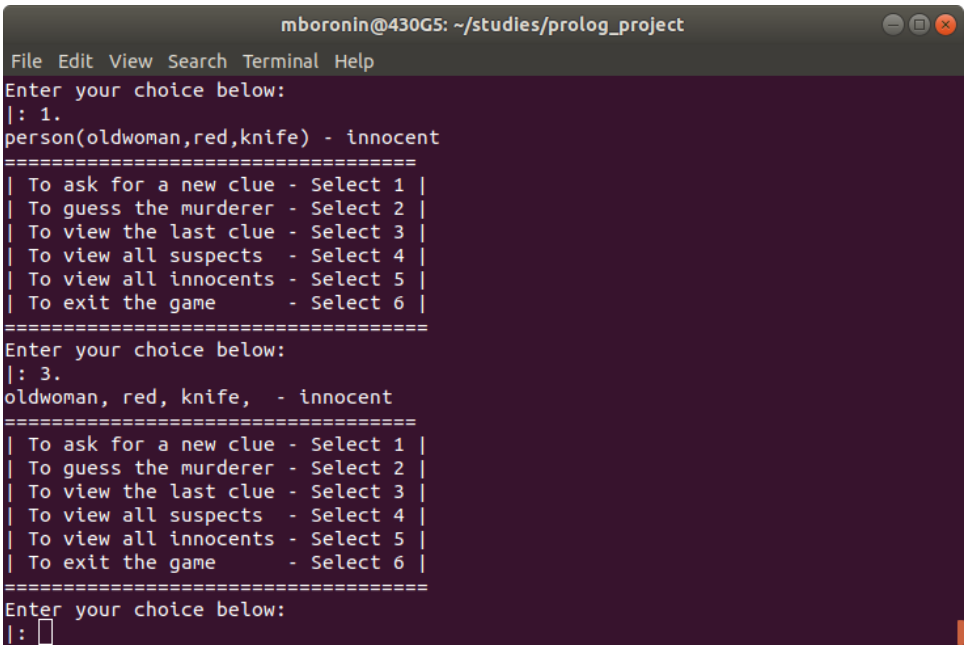


If your guess is wrong, you fail the game.



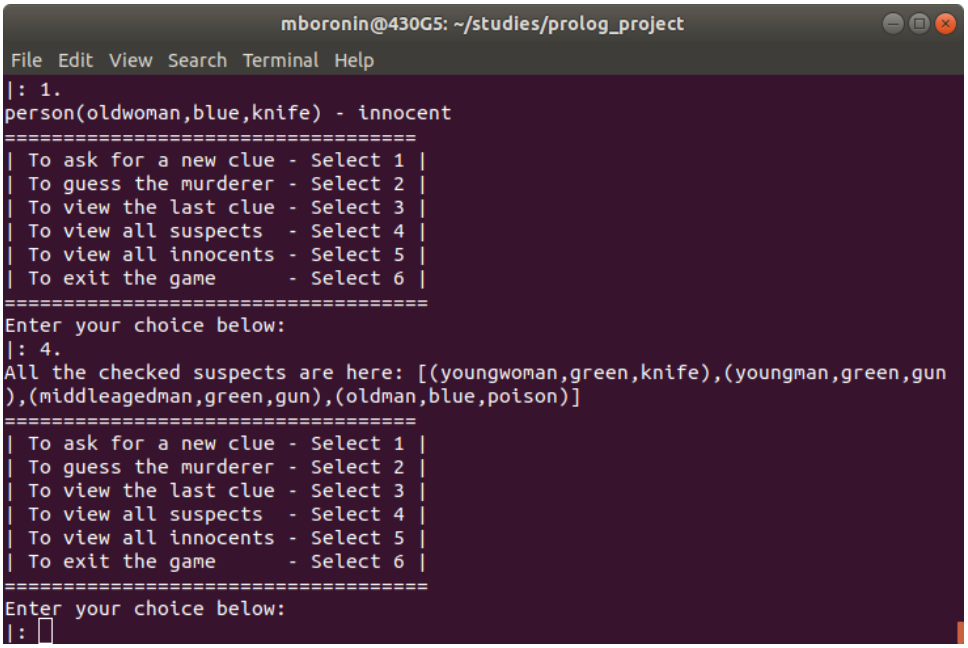
c. To view the last clue

You can view the last randomly generated clue, its attributes and role (suspect or innocent).



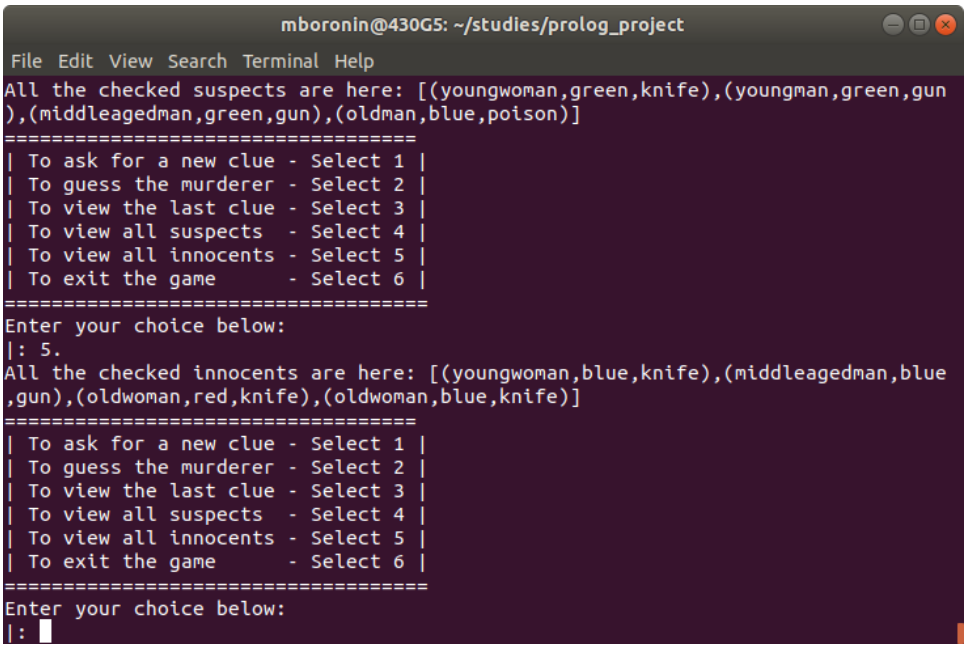
d. To view the suspects so far

You can view all the suspects so far.



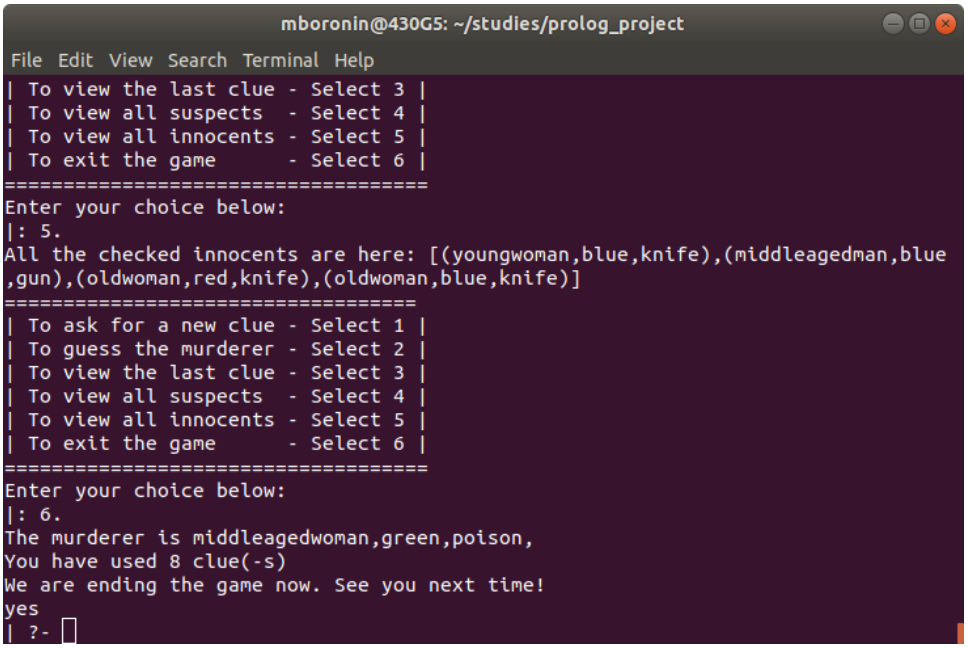
e. To view the innocents so far

You can view all the innocents so far.



f. To exit the game

You can exit the game when you want. And it needs you to restart the game to enter the game again after this operation.



Errors

This part explains what kinds of behavior may lead to errors.

a. When your choice is not in the selection list, it may contribute to an error. You will be asked to make choice in the selection list.
b. When you ask to view the last clue at the start of the game.
c. When you ask to view the suspects so far but the clues you have do not include any suspects.
d. When you ask to view the innocents so far but the clues you have do not include any innocents.