

1. (8 marks) A game “Don’t step on the bombs!” are played by 2 players. The game contains 2 files:

- **data.pl** is used to store where the bombs are. It also stores how many times each player won.
- **program.pl** is the main logic of the game.

Hint:

- use “asserta(X)” to write X to memory and “retract(X)” to remove X from memory.
- Declare **:-dynamic X/Y.** in the beginning of your file to allow predicate X (which has Y parameters) to be used with “asserta” and “retract”.
- **:-reconsult('data.pl').** is on the first line of **program.pl** to import file.
- Gameplay process (user must type **start**).
  - (1 mark) When the game starts, the first player is asked to plant 1 bomb in a tray of 3 slots (number 1 to 3). (must input data)
  - (1 mark) Then the second player is asked to pick a position. (must input data)
  - (2 mark) If the picked position contains a bomb, the first player wins the round. Notify the players and store the winning record in memory.
  - (2 mark) Otherwise, the second player wins the round. Notify the players and store the winning record in memory.
- Save process (user must type **save**).
  - (1 mark) Save the bomb position and winning record of both players into data.pl. source file.
- Display winning records (user must type **printRec**).
  - (1 mark) Print the winning records of both players.

#### How to submit:

**Zip both prolog files** into a zip file named with your id (for example, 6133320021.zip) and submit it on MyCourseville.

An example run is shown below (this is just a guide, you can do it anyway you want as long as your program satisfies the given behaviors.)

?- start.

Player1, please select a position for a bomb (1-3)

|: 2.

Player2, please pick a position (1-3)

|: 1.

Player2 wins this round.

true.

?- start.

Player1, please select a position for a bomb (1-3)

|: 3.

Player2, please pick a position (1-3)

|: 3.

Player1 wins this round.

true .

?- printRec.

Player1 wins = 1.

Player2 wins = 1.

true. % files are still unchanged at this point.

?- save.

true. % file data.pl now changes to reflect the stored winning records and bomb position.