

is\_category(C): succeeds if C is an available category in the game.

categories(L) : succeeds if L is a list containing all categories in the game without duplicates.

words(L): succeeds if L is a list containing all words in the game.

available\_length(L): succeeds if words(L) and available\_length\_helper([H|T],L) succeeds.

available\_length\_helper([H|T],L): succeeds if L is the length of any word in the List containing all words in the game (words(X)).

pick\_word(W,L,C): succeeds if W is a word in the game with length L and a category C.

correct\_letters(L1,L2,CL): succeeds if CL is the intersection of the 2 lists L1 and L2.

correct\_positions([A|B],[A|C],[A|D]): succeeds if the heads of the 3 Lists is the same and correct\_positions(B,C,D).

correct\_positions([A|B],[A1|C],D): succeeds if the heads of the first 2 lists are not the same and correct\_positions(B,C,D).

choose\_category: take an input X from the user as a category and choose\_category\_helper(X).

choose\_category\_helper(X): checks if the input from the user is an available category in the game and save the chosen category.

choose\_length: take an input X from the user as length and choose\_length\_helper(X).

choose\_length\_helper(X): checks if any word from the chosen category have a length equal to the input from the user.

## Wining scenario:

```
SWI-Prolog (Multi-threaded, version 8.4.2)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 32 bits, version 8.4.2)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?-
% c:/Users/Mohamed/Downloads/17.pl compiled 0.00 sec, 25 clauses
?- main.
Welcome to Pro-Wordle!
=====

Please enter a word and its category on separate lines:
|: dog.
|: animal.
Please enter a word and its category on separate lines:
|: bmw.
|: car.
Please enter a word and its category on separate lines:
|: mazda.
|: car.
Please enter a word and its category on separate lines:
|: elephant.
|: animal.
Please enter a word and its category on separate lines:
|: mango.
|: fruit.
Please enter a word and its category on separate lines:
|: done.

Done building the words database...
The available categories are: [animal,car,fruit]
Choose a category:
|: building.
This category does not exist.
Choose a category:
|: car.
Choose a length:
|: 6.
There are no words of this length.
Choose a length:
|: 5.
Game started. You have 6 guesses
```

```
SWI-Prolog (Multi-threaded, version 8.4.2)
File Edit Settings Run Debug Help

Done building the words database...
The available categories are: [animal,car,fruit]
Choose a category:
|: building.
This category does not exist.
Choose a category:
|: car.
Choose a length:
|: 6.
There are no words of this length.
Choose a length:
|: 5.
Game started. You have 6 guesses.
Enter a word composed of 5 letters:
|: mezfa.
Correct letters are: [m,a,z,a]
Correct letters in correct positions are: [m,z,a]
Remaining Guesses are 5

Enter a word composed of 5 letters:
|: mazda.
You Won!
true .

?-
```

## Losing scenario:

```
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?-
% c:/Users/Mohamed/Downloads/17.pl compiled 0.00 sec, 25 clauses
?- main.
Welcome to Pro-Wordle!
=====

Please enter a word and its category on separate lines:
|: dog.
|: animal.
Please enter a word and its category on separate lines:
|: bmw.
|: car.
Please enter a word and its category on separate lines:
|: mazda.
|: car.
Please enter a word and its category on separate lines:
|: elephant.
|: animal.
Please enter a word and its category on separate lines:
|: mango.
|: fruit.
Please enter a word and its category on separate lines:
|: done.

Done building the words database...
The available categories are: [animal,car,fruit]
Choose a category:
|: building.
This category does not exist.
Choose a category:
|: car.
Choose a length:
|: 3.
Game started. You have 4 guesses.
Enter a word composed of 3 letters:
|: abc.
Correct letters are: [b]
```

```
SWI-Prolog (Multi-threaded, version 8.4.2)
File Edit Settings Run Debug Help

Done building the words database...
The available categories are: [animal,car,fruit]
Choose a category:
|: building.
This category does not exist.
Choose a category:
|: car.
Choose a length:
|: 3.
Game started. You have 4 guesses.
Enter a word composed of 3 letters:
|: abc.
Correct letters are: [b]
Correct letters in correct positions are: []
Remaining Guesses are 3

Enter a word composed of 3 letters:
|: def.
Correct letters are: []
Correct letters in correct positions are: []
Remaining Guesses are 2

Enter a word composed of 3 letters:
|: ghi.
Correct letters are: []
Correct letters in correct positions are: []
Remaining Guesses are 1

Enter a word composed of 3 letters:
|: jkl.
You Lost!
true .

?-
```