

Concepts Project 1 Report

Team 13

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Predicates

word(X,Y):

Succeeds if X is a word in the KB and Y is its corresponding category

is_category(Y):

Succeeds if Y is a category in the KB

categories(L):

Succeeds if L is a list containing all available categories with no duplicates

available_length(L):

Succeeds if L is the length of a word present in the KB

pick_word(W,L,C):

Succeeds if W is a word in the KB, L is its length and C is its category

correct_letters(L1,L2,CL):

Succeeds if CL is the intersection of L1 & L2 (CL contains the elements present in both lists)

`correct_positions(L1,L2,CP):`

Succeeds if CP is the list containing the letters which are present in the same positions in L1 & L2

`choose_category(C):`

Prompts the user to enter a category C. Succeeds if user input is a category in the KB; if it is not, prompts the user to enter another category.

`choose_length(L,C):`

Prompts the user to enter a length L. Succeeds if a word of the length L exists in the pre-chosen category C; if it does not, prompts the user to enter another length.

`guess(W,L,G):`

Prompts the user to enter a word X of length L. Succeeds if the entered word X matches the word W from the category C in the KB, prints out "You Won! ^-^ :3".

If the word X does not exist in the KB, prompts the user to enter another word without deducting guesses G.

If the word X length does not match L, prompts the user to enter another word without deducting guesses G.

If the word X does exist in the KB and matches the length L but does not match the pre-picked word W, prompts the user to enter another word after deducting a guess G (decrements G by 1).

If no guesses are left (G = 0), prints out "You Lost! ;-;" and ends the game.

build_kb:

The KB building phase. Prompts the user to enter a word and its category and adds them to the KB. Stops when “done.” is entered.

play:

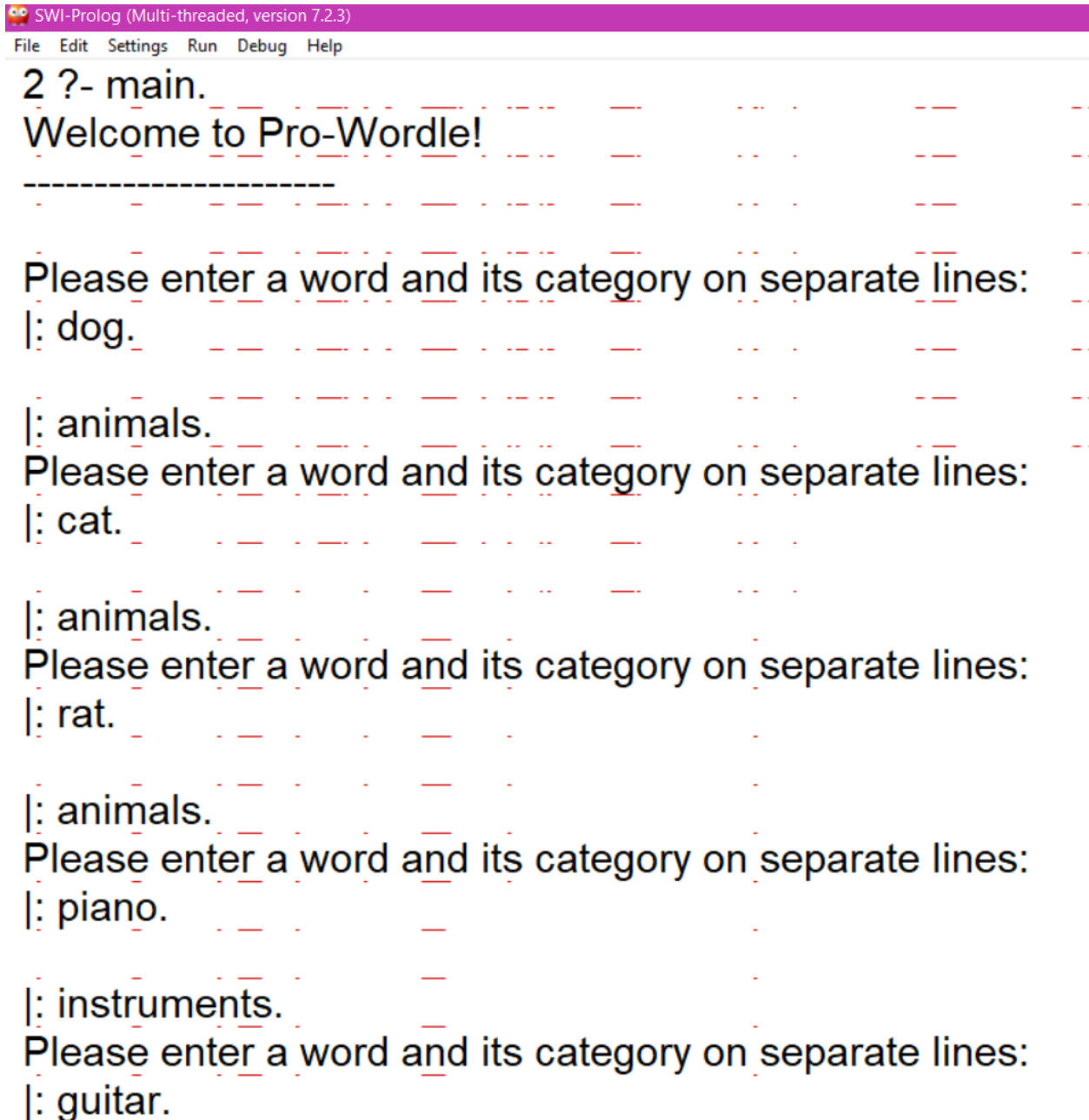
The gameplay phase. Displays available categories, prompts the user to choose a category and a length of a word from said category. Initiates gameplay start and displays number of guesses. (done through using the predicates choose_category/1, choose_length/2, pick_word/3, guess/3)

main:

Welcomes the player into the game, initiates the KB build phase then the gameplay phase. (done through using the predicates build_kb/0, play/0)

Screenshots

Run 1 (Winning):



```
2 ?- main.  
Welcome to Pro-Wordle!  
-----  
Please enter a word and its category on separate lines:  
|: dog.  
  
|: animals.  
Please enter a word and its category on separate lines:  
|: cat.  
  
|: animals.  
Please enter a word and its category on separate lines:  
|: rat.  
  
|: animals.  
Please enter a word and its category on separate lines:  
|: piano.  
  
|: instruments.  
Please enter a word and its category on separate lines:  
|: guitar.
```

|: instruments.

Please enter a word and its category on separate lines:

|: violin.

|: instruments.

Please enter a word and its category on separate lines:

|: spoon.

|: things.

Please enter a word and its category on separate lines:

|: done.

Done building the words database...

The available categories are: [animals,instruments,things]

Choose a category:

|: instruments.

Choose a length:

|: 3.

There are no words of this length.

Choose a length:

There are no words of this length.

Choose a length:

|: 6.

Game started. You have 7 guesses.

Enter a word composed of 6 letters:

|: flute.

Word not present in KB. Try again.

Remaining Guesses are 7

Enter a word composed of 6 letters:

|: violin.

Correct letters are: [i]

Correct letters in correct positions are: []

Remaining Guesses are 6

Enter a word composed of 6 letters:

|: guitar.

You Won! ^-^ :3

true .

Run 2 (Losing):

```
SWI-Prolog (Multi-threaded, version 7.2.3)
File Edit Settings Run Debug Help
2 ?- main.
Welcome to Pro-Wordle!
-----

Please enter a word and its category on separate lines:
|: rat.

|: animals.
Please enter a word and its category on separate lines:
|: cat.

|: animals.
Please enter a word and its category on separate lines:
|: panda.

|: animals.
Please enter a word and its category on separate lines:
|: pasta.

|: food.
Please enter a word and its category on separate lines:
|: salad.
```



```
|: food.
```

```
Please enter a word and its category on separate lines:
```

```
|: chocolate.
```

```
|: food.
```

```
Please enter a word and its category on separate lines:
```

```
|: fork.
```

```
|: things.
```

```
Please enter a word and its category on separate lines:
```

```
|: done.
```

```
Done building the words database...
```

```
The available categories are: [animals,food,things]
```

```
Choose a category:
```

```
|: food.
```

```
Choose a length:
```

```
|: 4.
```

```
There are no words of this length.
```

```
Choose a length:
```

There are no words of this length.

Choose a length:

|: 5.

Game started. You have 6 guesses.

Enter a word composed of 5 letters:

|: salad.

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

Remaining Guesses are 5

Enter a word composed of 5 letters:

|: salad.

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

Remaining Guesses are 4

Enter a word composed of 5 letters:

|: salad.

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

Remaining Guesses are 3

Remaining Guesses are 3

Enter a word composed of 5 letters:

|: salad.

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

Remaining Guesses are 2

Enter a word composed of 5 letters:

|: cucumber.

Word not present in KB. Try again.

Remaining Guesses are 2

Enter a word composed of 5 letters:

|: chocolate.

Word is not composed of 5 letters. Try again.

Remaining Guesses are 2

Enter a word composed of 5 letters:

|: salad.

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

Remaining Guesses are 1

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

Remaining Guesses are 1

Enter a word composed of 5 letters:

|: salad.

Correct letters are: [a,s]

Correct letters in correct positions are: [a]

You Lost! ;-;

true .