Brian Cullinan

Principles of Languages

Assignment 4 - Logic is a fickle master

Bjc76

Project 3 - The objective of this project was to learn the basics of prolog.

Part 1:

I completed this project by following the instructions, and reading a simple tutorial.

All of my output matches the output in the examples, except mine does not return Yes at the bottom. I would have to assume we are using different interpreters.

**Multn:** works by taking the input and multiplying it together.

**Xreplace:** recursively moves down the list comparing the first element. If the first element is the same as the needle, then it adds the replacement onto the list.

**Output:**

% c:/Documents and Settings/Brian Cullinan/My Documents/My Homework/CS 396/Project 4/family.pl compiled 0.00 sec, 1,192 bytes

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For help, use ?- help(Topic). or ?- apropos(Word).

1 ?- multn(5,3,OUT).

OUT = 15.

2 ?- multn(20,56,OUT).

OUT = 1120.

3 ?- xreplace(out,in, [john, ran, in, the, out, door], OUTPUT).

OUTPUT = [john, ran, in, the, in, door] .

4 ?- xreplace(mo, jo, [found, my ,mo,jo], OUTPUT).

OUTPUT = [found, my, jo, jo] .

5 ?- xreplace(mo, jo, [found,my,mo,jo], Temp),xreplace(jo,mo,Temp,OUTPUT).

Temp = [found, my, jo, jo],

OUTPUT = [found, my, mo, mo] .

6 ?-

**Code:**

multn(INT1, INT2, OUT) :- OUT is INT1\*INT2.

xreplace(\_, \_, [], []).

xreplace(NEEDLE, REPLACE, [NEEDLE | INPUT], [REPLACE | OUTPUT]) :- xreplace(NEEDLE, REPLACE, INPUT, OUTPUT).

xreplace(NEEDLE, REPLACE, [X | INPUT], [X | OUTPUT]) :- xreplace(NEEDLE, REPLACE, INPUT, OUTPUT).