## CS 326 – Project #12

Purpose:    Become familiar with the logic language Prolog.
Points:     80

## Assignment:

- Download and install GNU-Prolog[1].  Review the Prolog tutorial (see link on web site).

- Write a Prolog program to display the distances traveled by each of the following vehicles, given their speeds and time on a fictional race track.            (15 pts)

        ford, speed=100, time=20
        chevy, speed=105, time=21
        dodge, speed=95, time=24
        volvo, speed=80, time=24

    Output should look something like the following:

    ```
    | ?- distance(chevy).
    Distance traveled by chevy was 2205
    ```

- Write a Prolog program to display all combinations of an ice cream cone with strawberry, chocolate, and vanilla scoops.                                    (15 pts)

- Write a prolog program to solve the following puzzle:              (50 pts)

    

    Monkey and Banana Problem[2]:
    There is a monkey at the door into a room.  In the middle of the room a banana is hanging from the ceiling.  The monkey is hungry and wants to get the banana, but he can not stretch high enough from the floor.  At the window of the room there is a box the monkey can use.  The monkey can perform the following actions: walk on the floor, climb the box, push the box around (if the monkey is at the box), grasp the banana if standing on the box directly under the banana.  Can the monkey get the banana?
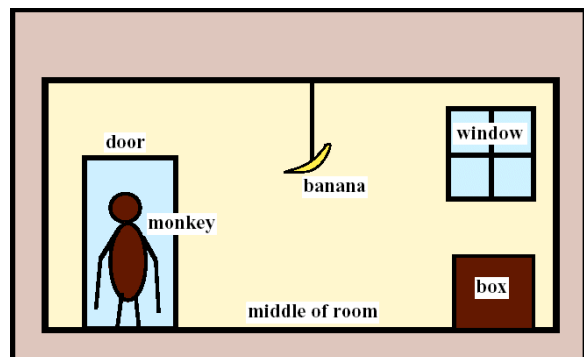
    ```
    | ?- getfood(state(atdoor,atwindow,onfloor,hasnot)).
    ```

    *Note*, you should show the intermediate steps in order to get the banana.

## Submission:

All parts of the project 12 code should be in a single file.
1) Submit a copy of the  proj12.pl  source file.
2) Submit a copy of tests for each part.

*Note*, to get the output, under the Edit option, choose the Select All, and then Copy which will select all text (even text scrolled off screen).  The text can then be pasted into a text editor and then saved for submission.

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1   For more information, refer to:  http://www.gprolog.org/
2   For more information, refer to:  https://en.wikipedia.org/wiki/Monkey_and_banana_problem