Recipe Transformer Assignment Sheet

For your second project, you'll be creating a recipe transformer. Your recipe transformer must complete the following tasks:

1. (optional) Accept the URL of a recipe from AllRecipes.com, and programmatically fetch the page. If you choose to skip this step, you will be copying and pasting the text or HTML into your program.
2. Parse it into the recipe data representation your group designs. Your parser should be able to recognize:
    - Ingredients
        - Ingredient name
        - Quantity
        - Measurement (cup, teaspoon, pinch, etc.)
        - (optional) Descriptor (e.g. fresh, extra-virgin)
        - (optional) Preparation (e.g. finely chopped)
    - Tools – pans, graters, whisks, etc.
    - Methods
        - Primary cooking method (e.g. sauté, broil, boil, poach, etc.)
        - (optional) Other cooking methods used (e.g. chop, grate, stir, shake, mince, crush, squeeze, etc.)
    - (optional) Steps – parse the directions into a series of steps that each consist of ingredients, tools, methods, and times
3. Ask the user what kind of transformation they want to do. At least three of the following options should be available:
    - To and from vegetarian and/or vegan
    - Style of cuisine
    - To and from healthy (or perhaps even different types of healthy)
    - DIY to easy
    - Cooking method (from bake to stir fry, for example)

    If you come up with your own transformation idea, feel free to ask if it would be an acceptable substitute. We encourage innovation.
4. Transform the recipe along the requested dimension, using your system's internal representation for ingredients, cooking methods, etc.
5. Display the transformed recipe in a human-friendly format.

As with the previous project, your system can run from the command line and/or from within the Python interpretive environment, if that is what you are using. Note that some of the things listed above are designated as optional. A group that does a truly fantastic job on all of the steps listed above, but omits the optional items, will probably be in the running for an A- or B+. Optional items will bolster your grade, although doing all of the optional items and a lousy job on the core items is not recommended.

With your completed project, you will hand in:

- A table, diagram, or other visual representation of how your group chose to organize the information you parsed from recipes
- Table(s), diagram(s), and/or other visual representation(s) of your internal data representation for ingredients, tools, methods, and/or transformation dimensions. Note that this is a representation of the knowledge base that your system will be using to transform from your parse of the recipe to the new transformed recipe. A good design here can make all the difference.
- For grading purposes: the code for a program that transforms between your parsing of a recipe and the json representation attached to this document; note that all words should be lower case, all numbers should be in decimal numerical format, and measures that are typically shortened should be expanded (e.g. tsp. → teaspoon). If you did not take on the optional task of identifying ingredient type and preparation, please include those fields but leave them blank. This will be run through an automatic scoring program to assess the accuracy, precision, and flexibility of your recipe parse.
- The code for your system. This should include a readme or comment header that lists the version of the programming language you used, and all dependencies. Any modules that are not part of the standard install of your programming language should be included in this list, along with information on the code repository from which it can be downloaded (e.g. for python, pip or easy_install). If you used code that you instead put in a file in your project's working directory, then a copy of that file should be provided along with the code you wrote; the readme and/or comments in such files should clearly state that the code was not written by your team.

Please hand in your project by 6 p.m. Sunday, March 16th. Presentations will be scheduled during the week of exams. If your group would like to make special arrangements to present the week before exams, please let us know ASAP.

```
{
    "ingredients": [{
            "name": "salt",
            "quantity": 1,
            "measurement": "pinch",
            "descriptor": "table",
            "preparation": "none"
        },
        {
            "name": "olive oil",
            "quantity": 0.75,
            "measurement": "teaspoon",
            "descriptor": "extra-virgin",
            "preparation": "none"
        },
        {
            "name": "parsley",
            "quantity": 1,
            "measurement": "cup",
            "descriptor": "fresh",
            "preparation": "finely chopped"
        }
    ],
    "cooking method": "primary cooking method here",
    "cooking tools": ["knife", "grater", "dutch oven"],
}
```