Computational Gastronomy

Coding Assignment 1

You may use Python and Jupitor Notebook as an IDE for completing the assignments and documentation.

Note: You are responsible for the backup of data as well as results, which will be used for evaluation.

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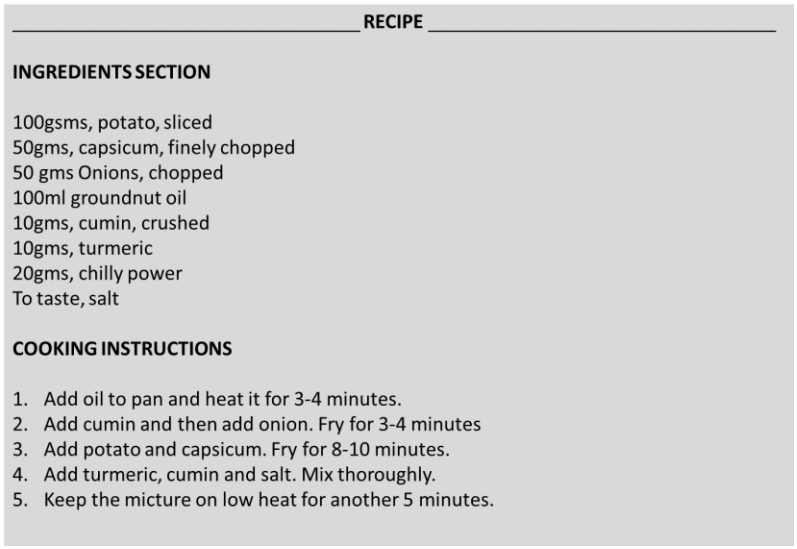
1. Find **five recipes** that you like the most from any of the online repositories.
   (a) Extract and represent the information from them in the traditional form (ingredients and cooking instructions); example below. **[5]**



RECIPE

INGREDIENTS SECTION

100gsms, potato, sliced
50gms, capsicum, finely chopped
50 gms Onions, chopped
100ml groundnut oil
10gms, cumin, crushed
10gms, turmeric
20gms, chilly power
To taste, salt

COOKING INSTRUCTIONS

1. Add oil to pan and heat it for 3-4 minutes.
2. Add cumin and then add onion. Fry for 3-4 minutes
3. Add potato and capsicum. Fry for 8-10 minutes.
4. Add turmeric, cumin and salt. Mix thoroughly.
5. Keep the micture on low heat for another 5 minutes.

   (b) Further, store the recipes in the form of a (Recipe ID)—(Ingredient Name) form. **[5]**
   (c) In general, as well as specific to each recipe, comment on which aspects of the recipes are being lost in the process of coarse-graining the recipe data? **[5]**
   (d) How could one possibly mitigate this *to extract the most details from the recipes*? **[5]**

2. Obtain the data of recipes from Kaggle and analyze it for the following.
   (a) Find number of recipes, number of unique ingredients, number of cuisines. **[3]**
   (b) Plot the statistics (bar plot) of number of recipes for each cuisine. **[2]**
   (c) Plot the recipe size distribution for each cuisine as well as for all the recipes. **[10]**
   (d) Plot cumulative distribution of recipe size and **interpret**. **[5]**

3. For the data of recipes from Kaggle:
   (a) Plot the frequency-rank distribution for all the recipes and interpret. **[3]**
   (b) List the 10 most popular ingredients in the recipes. **[2]**
   (c) Plot the ingredient-rank distribution for each of the cuisines and list the most popular ingredients for each cuisine. **[10]**
   (d) What is **your interpretation** of the results? **[5]**