1. Restaurant_data

This function reads cuisine from different csv and adds to the current dataset of recipe recommendations.

```
def restaurant_data(r1_cuisine, r2_cuisine, r2_restaurant, r):
 if r2_cuisine == r1_cuisine:
     r = r + str(r2_restaurant) + "% "
 elif r2_cuisine in r1_cuisine:
     r = r + str(r2_restaurant) + "% "
 elif r1_cuisine == 'Punjabi' and r2_cuisine == 'North Indian':
     r = r + str(r2_restaurant) + "% "
 elif r1_cuisine == 'Indian' and r2_cuisine in ['South Indian', 'Gujarati', 'North Indian']:
     r = r + str(r2_restaurant) + "% "
 elif r2['Cuisine'] == 'South Indian':
     r = r + str(r2_restaurant) + "% "
 return r
```

2. Diet_type_data

This functions classifies the recipe into three different parts i.e. Vegan, Vegetarian, and Non-Vegetarian.

```
def diet_type_data(r1_cleaned_ingredients):
 if 'chicken' in r1_cleaned_ingredients or 'fish' in r1_cleaned_ingredients:
     return "Non-Vegetarian"
 elif 'milk' in r1_cleaned_ingredients or 'paneer' in r1_cleaned_ingredients or 'curd' in r1_cleaned_ingredients or 'butter' in r1_cleaned_ingredients
     return "Vegetarian"
 else:
     return "Vegan"
```

3. Location_data

This function fetches the location of the restaurant from the different dataset and to the current dataset of recipe recommendations.

```
def location_data(r1_cuisine, r2_cuisine, r2_location, l):
 if r2_cuisine == r1_cuisine:
     l = l + str(r2_location) + "% "
 elif r2_cuisine in r1_cuisine:
     l = l + str(r2_location) + "% "
 elif r1_cuisine == 'Punjabi' and r2_cuisine == 'North Indian':
     l = l + str(r2_location) + "% "
 elif r1_cuisine == 'Indian' and r2_cuisine in ['South Indian', 'Gujarati', 'North Indian']:
     l = l + str(r2_location) + "% "
 elif r2['Cuisine'] == 'South Indian':
     l = l + str(r2_location) + "% "
 return l
```

4. Csv_read

This function takes 2 csv files as input and does all the pre-processing needed to create a database.

```
def csv_read():
df1 = pd.read_csv('Cleaned_Indian_Food_Dataset.csv')
df2 = pd.read_csv('Cuisine.csv')
for ind1, row1 in df1.iterrows():
    row1['Cleaned-Ingredients'] = row1['Cleaned-Ingredients'].lower()
    df1.at[ind1, 'Recipe-rating'] = str(random.randrange(1, 5))
    restaurant = ""
    for ind2, row2 in df2.iterrows():
        restaurant = restaurant_data(row1['Cuisine'], row2['Cuisine'], row2['Restaurant'], restaurant)
        location = location_data(row1['Cuisine'], row2['Cuisine'], row2['Location'], location)
    restaurant = restaurant[:len(restaurant)-2]
    location = location[:len(location)-2]
    df1.at[ind1, 'Restaurant'] = restaurant
    df1.at[ind1, 'Restaurant-Location'] = location.strip('\n')
    df1.at[ind1, 'Diet-type'] = diet_type_data(row1['Cleaned-Ingredients'])
df1.to_csv('final_recipe_recommender.csv', index=False)
```