Diabetic Meal & Nutrition Analysis Dataset

This dataset is designed to analyze **dietary patterns, nutritional intake, and glycemic impact** among different population groups based on **diabetes condition and physical activity level**. It helps understand how **meal composition and lifestyle choices** affect **calorie intake, carbohydrate load, and glycemic index**, which are critical factors in diabetes management.

📊 Dataset Structure

- **Total Records (Rows):** 224
- **Total Attributes (Columns):** 12
- **Data Type:** Structured tabular data
- **Granularity:** One row represents **one meal consumed at a specific time**

- **Domain:** Healthcare, Nutrition, Lifestyle Analytics

□ Detailed Column Description

1. Day_No

- Represents the **day sequence** of the meal plan (Day-1, Day-2, etc.)
- Helps in **daily aggregation** of calories and nutrients
- Useful for **trend analysis** and **daily diet comparison**

2. Group_Status

- Indicates the **health condition combined with physical activity**
- Categories include:
  - Diabetic_Active
  - Diabetic_NotActive
  - NonDiabetic_Active
  - NonDiabetic_NotActive
- This is the **most important segmentation column**
- Used to compare:
  - Diabetic vs Non-Diabetic
  - Active vs Sedentary lifestyle

3. Veg_NonVeg

- Specifies whether the meal is **Vegetarian or Non-Vegetarian**
- Helps analyze:
  - Nutritional differences

    - Glycemic impact of diet type
- Useful for **diet planning and recommendations**

4. Meal

- Identifies the **meal category**:
    - Breakfast
    - Lunch
    - Snack
    - Dinner
- Enables **meal-wise nutritional analysis**
- Helps detect **high-risk meals** (e.g., high-carb dinner)

5. Time

- Records the **meal consumption time**
- Supports:
    - Meal timing behavior analysis
    - Lifestyle routine insights
- Important for understanding **metabolic impact**

6. Dish

- Name of the **specific food item**
- Allows:
    - Dish-level comparison
    - Identification of **diabetic-friendly meals**
- Useful for **recommendation systems**

7. Calories

- Total energy intake per meal (in kcal)
- Key metric for:
  - Weight control
  - Energy balance analysis
- Can be aggregated to calculate **daily calorie intake**

8. Protein (g)

- Protein content of the meal
- Important for:
  - Muscle maintenance
  - Blood sugar stabilization
- Often compared across **active vs inactive groups**

9. Carbs (g)

- Total carbohydrate content
- **Critical column for diabetes analysis**
- High carbs usually correlate with:
  - Higher blood glucose
  - Higher glycemic load

10. Fat (g)

- Total fat content
- Helps evaluate:
  - Diet quality
  - Heart-health impact
- Often analyzed with calories

11. Fiber (g)

- Dietary fiber intake
- High fiber meals:
  - Slow glucose absorption
  - Improve digestion
- Strongly linked to **lower glycemic index**

12. Glycemic Index

- Measures how quickly food raises blood sugar
- Scale:
  - Low GI → Diabetes friendly
  - High GI → Blood sugar spike
- One of the **most important KPIs** in the dataset