DATE	19 JUNE 2025
TEAM ID	LTVIP2025TMID52276
PROJECT NAME	Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study
MARKS	4 MARKS

SOLUTION REQUIREMENTS

To ensure the success of this project, the following tools, technologies, data types, and functional requirements are essential.

🔧 1. Technical Requirements

1.1 Data Tools

- **Data Collection**: Google Forms, Microsoft Excel/CSV
- **Data Cleaning & Processing**: MS Excel, Python (optional for preprocessing)
- **Data Visualization**: **Tableau Desktop** or **Tableau Public**
- **Web Integration** (optional): Flask (Python), HTML/CSS for embedding dashboards

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2. Data Requirements

2.1 Primary Data

- Food intake logs from students (daily diet data for 30 days)
- Dining hall purchase records
- Surveys on food preferences, budget, exercise routines

2.2 Key Data Fields

- `Student_ID` (anonymous)
- `Meal Type` (breakfast/lunch/dinner/snacks)
- `Food Item`
- `Calories`, `Carbohydrates`, `Protein`, `Fat`
- `Budget per Meal`
- `Exercise Duration`, `Sleep Hours`

2.3 Derived Metrics

- Daily nutrient intake
- Budget vs nutrition score
- Skipped meals frequency
- Macronutrient balance (Pie/Bar)
- Dietary guideline compliance %

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3. Functional Requirements

3.1 Dashboards

- Nutrient Intake vs Recommended Levels
- Meal Skipping Trends
- Food Preferences by Demographics
- Spending Analysis: Healthy vs Junk
- Performance Dashboard: High-Protein or Balanced Diet Trends

3.2 Filters/Interactivity

- Gender
- Year of Study
- Athlete Status
- Budget Range
- Food Type

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4. Analytical Requirements

- Identify nutrition deficiencies (e.g., low fiber or iron)
- Compare actual vs recommended intakes
- Correlate exercise and sleep with food choices
- Generate health improvement suggestions
- Create dietary segments (e.g., Balanced, Carb-heavy, Junk-food dependent)

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5. Reporting Requirements

- Tableau Storyboards summarizing insights
- Weekly patterns and health risk identification
- Exportable PDF/PNG snapshots for reports
- Interactive dashboard embedded in a web page (using Flask)