

## # Project Report — Health & Diet Analyzer for Hostel Students (Java)

### ## Introduction

This Java console application allows a student to log meals, compute daily nutrition totals and detect likely deficiencies using heuristic rules.

### ## Architecture

- `Main` - console interface
- `Database` - JSON file read/write
- `MealService` - meal management (CRUD)
- `NutritionAnalyzer` - aggregation and risk heuristics
- `models` - User, FoodItem, Meal

### ## How to run

See README.md

### ## Future enhancements

- Convert to Spring Boot + REST API
- Add JavaFX GUI
- Replace JSON file store with embedded DB (H2)
- Add unit tests (JUnit)