**Case Study: Diet Optimization Problem**

**Problem Description:** A company cafeteria plans to introduce a meal plan consisting of two types of food items: **Food 1** and **Food 2**. The cafeteria aims to provide a balanced meal plan while minimizing the total cost. Each food item has specific nutritional and cost attributes:

* **Food 1**: Each serving contains 500 calories and costs $4.
* **Food 2**: Each serving contains 300 calories and costs $3.

The goal is to design a meal plan that:

1. Meets a **minimum calorie requirement** of 2000 calories per day.
2. Does not exceed a **maximum calorie limit** of 4500 calories per day.
3. Achieves the above at the **lowest possible cost**.

**Objective:** Minimize the total cost of the meal plan while satisfying the calorie constraints.

**Student Task:** Use the provided Python code to solve this optimization problem. Identify the optimal number of servings for Food 1 and Food 2 to meet the calorie requirements at the minimum cost. Then, interpret the results.