

PART I (10 minutes)

Consider the following problem:

Next Monday, I'll start a new fruit-oriented diet. I will eat the following fruits: Apple, Banana, Orange. I keep my fruits in a fruit basket. Write me an object-oriented program to help me with my diet. I want to be able to:

- put a new fruit in my fruit basket. E.g: `basket.add(...)`
- pick a fruit from the basket. (You decide on the selection algorithm: FIFO, LIFO, random, etc.) E.g. `basket.take()`
- learn the total weight in my basket, in grams. E.g. `basket.getTotalWeight()` The weight of a particular fruit is specified when it's created. E.g. `new Apple(15)`
- learn the total calories in my basket (apple: 2.8 cal/gr, banana: 3.2 cal/gr, orange: 3.8 cal/gr). E.g. `basket.totalCalories()`

PART II

My doctor allows me to eat grapes as well. Extend the program with grapes. Grapes weigh 2 gr/grape, and have 4 cal/gr.

PART III

This fruit-oriented diet is starting to get too expensive. To keep track of my expenses, I want to be able to learn the cost of a fruit basket. Apples are 2 TL/kg, bananas are 4 TL/kg, oranges are 1.5 TL/kg, grapes are 6 TL/kg (because they are out of season).

How did your original program react to extensions?