PPA Assignment 2

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1. Introduction

The program models total calorie intake of a single person, henry. I need to demonstrate my ability to use constructer, declare class as a type variable, interact between multiple classes and access private variables its methods.

2. Pseudocode

Class Person

Initialise private int calories

Define eat

Add new calories to current calories

Define walk

Subtract workout calories from current calories

Define printCalories

Print current calories

Class Dish

Initialise private int calories

Define setDish

Set calories to a dish

Define getDish

Return calories

Class Meal

Initialise private int mealCalories

Initialise private Dish starter

Initialise private Dish main

Initialise private Dish dessert

Define setMeal

Set object starter from starter dish

Set object main from main dish

Set object dessert from dessert dish

Define calculateCalories

Sum total starter, main, dessert dish calories to mealCalories

Define printMealCalories

Print mealCalories

Class CalorieTracker

Initialise new human henry

Print henry’s current calories

Initialise 3 new dishes toast, omelette, banana and SET calories

Initialise new meal omeletteBreakfast with toast, omelette, banana

Initialise 3 new dishes wedge, pizza, cheesecake and SET calories

Initialise new meal pizzaDinner with wedge, pizza and cheesecake

Initialise 3 new dishes gratin, pie and gelato and SET calories

Initialise new meal pieLunch with gratin, pie, gelato

Henry eats omeletteBreakfast

Print calories of omeletteBreakfast

Print Henry’s current calorie intake

Henry eats pizzaDinner

Print calories of pizzaDinner

Print Henry’s current calorie intake

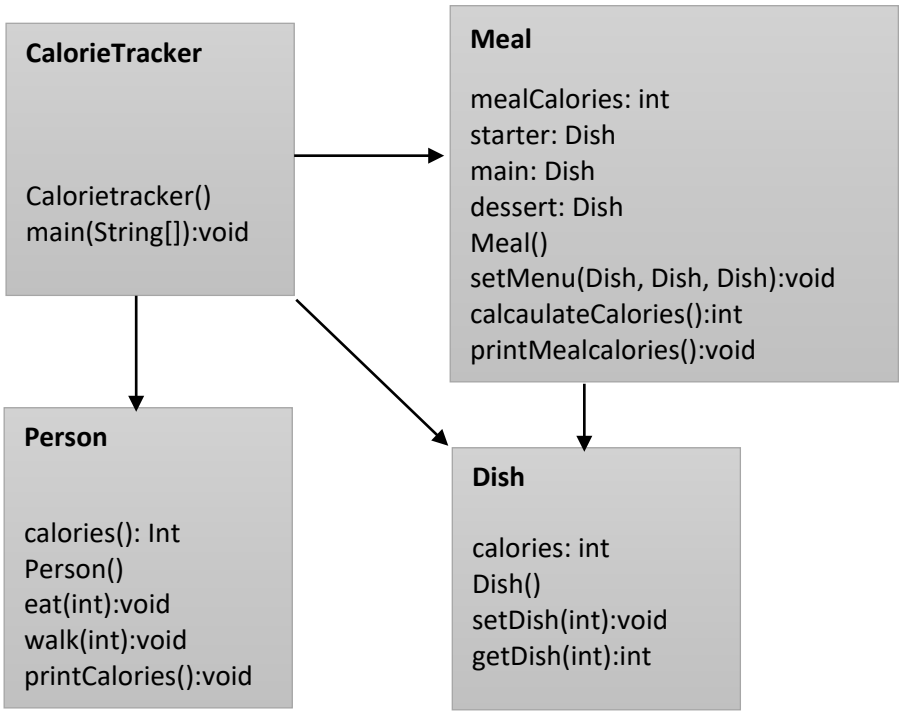
Henry eats pieLunch

Print calories of pieLunch

Print Henry's current calorie intake

Henry walks for 830 min

3. Class Diagram



4. Description

Class Person:

public void eat(int amount){

this.calories = this.calories + amount;

}

This adds new calories intake to current calories

public void walk(int min){

this.calories = this.calories - min;

System.out.println(min);

}

This method subtract workout calories from current calories

public void printCalories(){

System.out.println(calories);

}

This method prints current calories

Class Dish:

public void setDish(int calories) {

this.calories = calories;

}

SetDish assigns calories to a dish

public int getDish(){

return calories;

}

getDish returns calories of a dish

Class Meal:

public void setMeal(Dish starter, Dish main, Dish dessert){

this.starter = starter;

this.main = main;

this.dessert = dessert;

}

Meal consists of type dish object starter, main, dessert

public int calculateCalories(){

mealCalories = starter.getDish() + main.getDish() + dessert.getDish();

return mealCalories;

}

CalculateCalories by calling each calorie values of starter, main, dessert and add them together

public void printMealCalories(){

System.out.println(mealCalories);

}

Print Mealcalories

Class CalorieTracker:

Person henry = new Person();

Initialise new human henry

henry.printCalories();

Print current calories values of henry, which is 0.

Dish toast = new Dish();

toast.setDish(110);

Dish omelette = new Dish();

omelette.setDish(425);

Dish banana = new Dish();

banana.setDish(140);

Meal omeletteBreakfast = new Meal();

omeletteBreakfast.setMeal(toast, omelette, banana);

Initialise 3 dishes, assign calories to each dishes and set Meal omeletteBreakfast

Dish wedge = new Dish();

wedge.setDish(210);

Dish pizza = new Dish();

pizza.setDish(455);

Dish cheesecake = new Dish();

cheesecake.setDish(335);

Meal pizzaDinner = new Meal();

pizzaDinner.setMeal(wedge, pizza, cheesecake);

Initialise 3 dishes, assign calories to each dishes and set Meal pizzaDinner

Dish gratin = new Dish();

gratin.setDish(250);

Dish pie = new Dish();

pie.setDish(600);

Dish gelato = new Dish();

gelato.setDish(305);

Meal pieLunch = new Meal();

pieLunch.setMeal(gratin, pie, gelato);

Initialise 3 dishes, assign calories to each dishes and set Meal pieLunch

henry.eat(omeletteBreakfast.calculateCalories());

omeletteBreakfast.printMealCalories();

henry.printCalories();

henry eats omeletteBreakfast(least calories) and adds meal calorie output to the current calories

print meal calories values,

print current henry values

henry.eat(pizzaDinner.calculateCalories());

pizzaDinner.printMealCalories();

henry.printCalories();

henry eats pizzaDinner(1000 calories) and adds meal calorie output to the current calories

print meal calories values,

print current henry values

henry.eat(pieLunch.calculateCalories());

pieLunch.printMealCalories();

henry.printCalories();

henry eats pieLunch(highest calories) and adds meal calorie output to the current calories

print meal calories values,

print current henry values

henry.walk(830);

henry walks 830 minutes and 830 calories are subtracted from the calories.

prints 830 minutes to the console