1. State the question you chose to answer and why you chose this question.
   1. Best food to maximize muscle protein synthesis.
2. Describe the data set that you chose to help answer this question, and the process used to find the data set.
   1. I chose to use the data set available [here](https://en.wikipedia.org/wiki/Protein_Digestibility_Corrected_Amino_Acid_Score) which displays different measurements of Protein digestibility-corrected amino acid score (PDCAAS.)
3. Describe the development process used in the completion of this project.
   1. I began with outlining the data I would like to parse and store, followed by writing out and testing the class of my program.
4. Describe the class used to represent entries in the identified data set, and why the specific instance variables were chosen.
   1. Since my question has been scientifically answered with relatively basic statistics, I can store this data using a class named Food with a double instance variable named score that stores the food’s PDCAAS score.
5. Provide the code segment where data is being processed and describe how the data was processed in order to answer the identified question. Note that data must be stored in an array or ArrayList in order to earn full credit. AP Computer Science A Student Lab Handout 14
   1. If I had been provided a list with which I could gather this information on the PDCAAS score my program would parse the score and the name of the food, followed by sorting the list and looking for only the highest scoring foods, and then adding those foods to a list where I can display the information.

import java.util.ArrayList;

public class FoodTester {

public static void main(String[] args) throws Exception {

// Example foods

Food cowMilk = new Food(1, "milk");

Food eggs = new Food(1, "eggs");

Food blackBeans = new Food(0.75, "black beans");

ArrayList<Food> foodList = new ArrayList<Food>();

foodList.add(cowMilk);

foodList.add(eggs);

foodList.add(blackBeans);

ArrayList<Food> bestFoods = new ArrayList<Food>();

double bestScore = foodList.get(0).getScore();

// Get the best food score from our list

for (int i = 0; i < foodList.size(); i++) {

if (foodList.get(i).getScore() > bestScore) {

bestScore = foodList.get(i).getScore();

}

}

// Append all best foods to our list

for (int i = 0; i < foodList.size(); i++) {

double currentScore = foodList.get(i).getScore();

if (currentScore == bestScore) {

bestFoods.add(foodList.get(i));

}

}

System.out.println("Best foods for muscle protein synthesis: ");

for (int i = 0; i < bestFoods.size(); i++) {

System.out.println(bestFoods.get(i).toString());

}

}

}

class Food {

private double score;

private String name;

Food(double score, String name) {

if (score > 1.00 || score < 0.00) {

System.out.println("Error: Score cannot be greater than one or less than 0.");

System.exit(1);

}

this.score = score;

this.name = name;

}

// Setters

public void setScore(double score) {

this.score = score;

}

public void setName(String name) {

this.name = name;

}

// Getters

public double getScore() {

return this.score;

}

public String getName() {

return this.name;

}

public String toString() {

return this.name + " score -> " + this.score;

}

}