Credit Name: CS 3120 Object-Oriented Programming 1

Assignment: LunchOrder

How has your program changed from planning to coding to now? Please Explain

```
3  public class Food {
4
5          private String name;
6          private double price;
7          private int fat , carbs , fiber ;
8
9
10
11         public Food(String n,double p, int f, int c, int fib)
12         {
13             name = n;
14             price = p;
15             fat = f;
16             carbs = c;
17             fiber = fib;
18         }
19
```

In my object called Food, I have 5 private variables, relating to the name of each meal, its price and its nutritional value: fats,carbohydrates and fiber.

Then i set up and overloaded a constructor with 5 parameters, related to the 5 variables mentioned above. Then i made each variable equal to its corresponding parameter.

```
           public double getPrice()
           {

               return price;
           }
```

I made a method to get the price which simply returns the price of the food.

```
    public String toString()
    {
        String info;
        info = "Each "+ name + " has " + df.format(fat) +"g of fat, " + df.format(carbs)+ "g of carbs, and "+ df.format(fiber) + "g of fiber";
        return info;
    }
}
```

I made a toString() method which displays the name and nutritional information as a sentence.

```
public static void main(String[] args) {

    DecimalFormat df = new DecimalFormat("0.00");
    Scanner input = new Scanner(System.in);

    // Create Food objects based on the provided chart
    Food hb = new Food("hamburger",1.85, 9, 33, 1);
    Food sa = new Food("salad",2.00, 1, 11, 5);
    Food f = new Food("fries",1.30, 11, 36, 4);
    Food so = new Food("soda",0.95, 0, 38, 0);
```

In my client code, I set up a decimal format to show currency correctly and i have a scanner to receive input for the number of each product ordered.

Then I created an object for each food type and entered the relevant information in the order ('name', price, fat,carbs, fiber).

```
// Prompt user for quantities of each item and display nutritional values
System.out.print("Enter the number of hamburgers: ");
int numHamburgers = input.nextInt();
System.out.println(hb.toString());

System.out.print("\nEnter the number of salads: ");
int numSalads = input.nextInt();
System.out.println(sa.toString());

System.out.print("\nEnter the number of french fries: ");
int numFries = input.nextInt();
System.out.println(f.toString());

System.out.print("\nEnter the number of sodas: ");
int numSodas = input.nextInt();
System.out.println(so.toString());

input.close();
```

Then I prompted the user for the number of each food product they ordered. After they type in the number of products they want, I display the nutritional information for 1 of

that food, using the toString method. I repeated this process for all 4 food types: hamburgers, salads, french fries and sodas.

```
// Calculate total price
double totalPrice = (numHamburgers * hb.getPrice()) +
                    (numSalads * sa.getPrice()) +
                    (numFries * f.getPrice()) +
                    (numSodas * so.getPrice());

//Print total price
System.out.print("\nYour order comes to: $" + df.format(totalPrice));
```

Lastly I calculate the the total price by multiplying the number of the products ordered by the price of that product, for each individual product and finding the sum of all of the costs. This is then displayed after being formatted.