EE2510 – Project B: Healthy, wealthy and wise

Borrowed from Dr. Carl

3 weeks total – **DEMO required**

Goals:

1. Implement a complete C++ program
2. Use advanced OOP concepts: composition, operator overloading, inheritance, polymorphism

Assignment Description:

Overview:

Design and implement a nutrition calculator

Interface:

The user of this program will use the program at the end of the day to determine how healthy their eating was that day.

Since people have different diet requirements, it is not up to the program to determine if the user had a healthy day or not, only to report various health metrics associated with the food the user ate that day (calories, protein, vitamins, etc.).

Your program should allow a user to enter any number of meals per day, and then add any number of foods to each meal.

After all of the meal and food information is entered, the program should report the combined health metrics for that day.

When adding food to a meal the user should be able to select from a pre-defined list of food that has at least 10 different foods in it.

All 5 food groups must be represented: https://www.usda.gov/media/blog/2017/09/26/back-basics-all-about-myplate-food-groups

Operational requirements:

The program must include at least 2 of the 4 OOP concepts identified in the goals section.

The foods must be inherited from a food group. (E.g Milk is a subclass of dairy)

The daily consumption should be an object, your interface should be calling it's member functions

Create a library of at least 10 foods. Use a file to read in the food library and values.

Each food should have at least 4 different health metrics associated with it (calories, protein, vitamins, etc.).

Additional functions may be needed or desired

NO global variables

Grading:

Functionality	Structure
Comments – readability	Documentation
Cleanliness (beauty) of the code	On-time

Deliverables:

All code

Description of approach – including use of OOP concepts

UML diagram(s)

Eclipse "project explorer" capture showing all files in the project

Video of program run

Hardcopy – via OneNote, no need to put in PowerPoint or pdf

Due: Thursday, 4:00, week 10 – Uploaded to OneNote – No exceptions