**Project Name:** Fitness Tracker

**Group : C**

**Team Members:** Brittany Bryson Enes Sert Darshan Mendpara

**Planned Team Roles:**

* Brittany will be the team leader and will function as the organizer for team meetings and making sure team members are contributing equally and meeting deadlines.
* Enes will function as the team developer and will help review and format code.
* Darshan will research the different variables and equations that are going to be needed to complete the program.
* All team members will contribute to writing the code used for the program.

**Background/ Experience that each member brings to the project:**

* **Darshan** has beginner knowledge in java. He can contribute the baseline knowledge that functions as the foundation to writing the program and developing the project.
* **Brittany** as leadership and organization skills that can keep the team focused on meeting goals and deadlines. She can make sure group members are meeting deadlines and communicating to one another regularly.
* **Enes** has fitness and health knowledge that will help us determine the different variables and elements our project needs to have. His knowledge can ensure that we are developing a program that suits the user's needs.

**Purpose of the Project:**

The purpose of this project is to create a program that assists individuals in tracking and maintaining their health. This project will be able to cater to a wide range of individuals of any age. The program will take the user’s statistics, such as height, weight, and age, and output different health information to the user. Some of the outputs would include if the user is overweight, how many calories the individual should consume, how much water the individual should drink, and much more. The program will also include fitness logs, so the user is able to keep track of daily health statistics. In addition the program will inform the user on what they need to do in order to reach their target weights. This could include telling the user they need to exercise more or eat less. Overall, we want the user to be able to use this program to become more healthy and reach their target weight goals.

**Why is the project important?**

Unfortunately, the obesity rate in the United States is quite high. Vast majority of the population eat fast food. There are some reasons why this type of food is being consumed a lot. It is relatively cheap to have a fast food meal. In addition, it is quite efficient for the ones who do not have a lot of time to spend for their meals. We would like to help those out by providing a fitness source, which the users can put their input to get valuable feedback. The information they receive can assist them change their eating habits as well as exercising routine to become healthy individuals. Furthermore, the reason the project is important is that most of the people cannot or do not maintain the weight they desire and that might cause health problems, but no worries! We are here to help to those who are willing to get assistance. Finally, more than one third of the U.S. adult population is considered as obese; however, we believe that this concept will be the ultimate solution on those who are seeking to change their lives for better.

**Cases:**

1. The first case we will have will be for calories. In this case we will use the health information, given to us by the user, and determine how many calories they should be in taking on a daily basis. Also in this case we will allow the user to input their caloric intake values from the day. This will be kept in a log for the user to see so they can track what they have eaten and how much they have eaten as well. This will be useful because the user will be able to compare how much he has eaten to the stated amount they should be eating.
2. The second case will be excersise. This portion of the program will also give the user a set number of minutes that they should be exercising a day. This portion will also feature a log entry for the user to track their fitness levels. The user can enter in what types of exercises they did in addition to how many reps they did. By entering in their exercises they can compare the amount of reps they have increased by. This will be helpful for the user so they can compare their fitness levels on a week to week basis.
3. The third case of hour program will be water intake. This portion of the program would recommend the amount that the user should be drinking based on their height, weight, and activity level. This is important because staying hydrated is crucial during any fitness activity and also it is important to drink water on a daily basis. Drinking the recommended amount of water improves the health of an individual. By having water intake in our program it helps the user develop a health lifestyle by drinking the correct amount of water each day.
4. The last case is sleep. Recharging your body after a long day is important. Sleep rests not only your mind, but your muscles as well. This part of the program will allow the user to enter in a sleep log to track the amount of sleep they are receiving each night. They can enter in the different types of sleep they had such as restless or uninterrupted sleep. They then can compare the amount of sleep they receive to the recommended average which will also be stated in the program. This part of the program is important because sleep deprivation can cause serious health issues in an individual and hour program will help the user recognize if they are getting enough sleep at night.

**Foreseen Limitations**

Some limitations good include the vast range of health issues that individuals have that might alter the amount of food,water, and exercise they have. These people will be outliers to our program because they may not fall within the boundaries of the equation. Catering to individuals with different health issues would be difficult because there are so many different health issues an individual could have. Also there could be problems programming the different cases as well. A large portion of our cases have activity logs within them, therefore we must learn how to develop and program a log feature for our program. Another limitation our group faces is the lack of time our group members have to meet in person with one another. We must actively communicate with one another and make sure we make time to meet for the project, so we are on the same page with the various functions and aspects of the project. Communicating is going to be crucial in this project as well as time management.

CODE UPDATED 12/6/17 @2:20PM

import java.util.Scanner;

public class FitnessTracker

{

public static void main(String[] args)

{

Scanner input = new Scanner(System.in);

//variables

int age;

int height;

double weight;

double bmi;

String exercise;

boolean none = false;

boolean light = false;

boolean moderately = false;

boolean intensely = false;

boolean five;

double cal;

//Prompting the user to enter name.

System.out.print("Enter full name: ");

String name = input.nextLine();

//Prompting the user to enter weight.

System.out.print("Enter weight in pounds: ");

weight = input.nextDouble();

//Prompting the user to enter height.

System.out.print("Enter height in inches: ");

height = input.nextInt();

//Prompting the user to enter age.

System.out.print("Enter age please: ");

age = input.nextInt();

//Printing the user's full name to a new line in upper cases.

System.out.println("\n" + name.toUpperCase() + ",");

//Calculating the Body Mass Index data of the user..

bmi = ((weight \* 703) / (height \* height));

//Checking whether the user is underweight.

if (bmi < 18.5) {

System.out.println("\nAccording to your BMI, you are considered underweight.");

}

//Checking whether the user is average weight.

else if (bmi >18.5 && bmi < 24.9) {

System.out.println("\nAccording to your BMI, your weight is average.");

}

//Checking whether the user is overweight.

else if (bmi > 25 && bmi < 29.9) {

System.out.println("\nAccording to your BMI, you are considered overweight.");

}

//Checking whether the user is obese.

else {

System.out.println("\nAccording to your BMI, you are considered obese.");

}

//Determining your bmi

{

bmi = (int) (20 + (6.23 \* weight) + (12.7 \* height) - (6.8 \* age));

}

//Show bmi

System.out.println("Your BMI is " + bmi);

//Level of Exercises

if (none)

{

cal = (bmi \* 1.69);

}

else if (light)

{

cal = (bmi \* 1.125);

}

else if (moderately)

{

cal = (bmi \* 1.3);

}

else if (intensely)

{

cal = (bmi \* 1.2);

}

else

{

cal = (bmi \* 1.5);

}

System.out.println("What is your Exercise level? Select one of the answers below:");

System.out.println("Type NONE , if you do not exercise. ");

System.out.println("Type 2 light exercise one to three days a week.");

System.out.println("Type in 3 if you do exercise moderately three to five times a week.");

System.out.println("Type in 4 if you do intensely six to seven days a week.");

System.out.println("Type in 5 if you do exercise intensely six to seven days a week and have a physically active job.");

exercise = input.nextLine();

none = input.nextLine() != null;

System.out.println("Your daily calorie needs " + cal);

//calculate amount of water intake based on weight

//display caculation for average water intake

double waterIntake = .5 \* weight;

System.out.printf("\nAccording to your weight, your recommended water intake is " + waterIntake + " ounces.");

//water intake if the user is an active person

//ask if the user excercises

System.out.printf("\n\nEnter the amount of minutes you exercise.");

double exerciseMin = input.nextDouble();

//caclulation for water intake with exercise

double exerciseWater = waterIntake + ((exerciseMin/30) \* 12);

//display how much water they should drink based on exercise

System.out.printf("\nAccording to your exercise minutes, you recommended water intake is " + exerciseWater + " ounces");

/\*\* UserCardio class

class UserCardio{

//variables

String name;

String week;

double time = 1;

double distance = 1;

//no arg constructor

UserCardio(){

}

//constructor

UserCardio(String newName,String newWeek,double newTime,double newDistance){

this.name = newName;

this.week = newWeek;

this.time= newTime;

this.distance = newDistance;

}

//get time

String getName(){

return name;

}

String getWeek(){

return week;

}

double getTime(){

return time;

}

double getDistance(){

return distance;

}

double getGoal(){

return time - 2.00;

}

//set as new values

void setName(String newName){

name = newName;

}

void setWeek(String newWeek){

week= newWeek;

}

void setTime(double newTime){

time = newTime;

}

void setDistance(double newDistance){

distance = newDistance;

}

}

\*\*/

//this is the class User Cardio: object one

UserCardio loryn1 = new UserCardio("Loryn","Week 1 ",16.00, 1.21);

System.out.printf("\n \n Name: " + loryn1.getName() + " , "+ loryn1.getWeek() + "\n Time: " + loryn1.getTime()

+ " minutes " + "\n Distance: " + loryn1.getDistance()+" miles" + "\n Goal time for next week: "

+ loryn1.getGoal() + " minutes");

//this is the class user cardio: object two

UserCardio loryn2 = new UserCardio("Loryn","Week 2 ",14.00, 1.21);

System.out.printf("\n \n Name: " + loryn2.getName() + " , "+ loryn2.getWeek() + "\n Time: " + loryn2.getTime()

+ " minutes " + "\n Distance: " + loryn2.getDistance()+" miles" + "\n Goal time for next week: "

+ loryn2.getGoal() + " minutes");

//array that calculates the average run time for the number of days the user worked out

System.out.printf("\n \n Enter the number of days you exercised this week: ");

int n = input.nextInt();

double numbers[]= new double[n];

double sum = 0;

System.out.print("Enter the times of each run: ");

for (int i = 0; i < n; i++) {

numbers[i] = input.nextDouble();

sum += numbers[i];

}

double average = sum / n;

System.out.println("Average is run time is: " + average);

//calculating sleep efficiency

//recommend sleep hours = recSleepHours

double recSleepMins = 420;

//prompt the user to enter the time it takese to fall asleep, time awake, and total time slept

System.out.printf("\n\n How long does it take you to fall asleep (in minutes)?");

double fallAsleep = input.nextDouble();

System.out.printf("\n How many minutes are you awake at night?");

double timeAwake = input.nextDouble();

//calculation for sleep efficiency

double totalAwake= fallAsleep + timeAwake;

double minsOfSleep = recSleepMins - totalAwake;

double sleepEficiency = minsOfSleep/recSleepMins;

//display sleep efficiency

System.out.printf("\n Your sleep efficiency is %.2f" ,sleepEficiency );

}

}