HACETTEPE UNIVERSITY DEPARTMENT OF COMPUTER ENGINEERING BBM104

ASSIGNMENT-2

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Subject: Introduction to Programming II
Programming Language: Java

1. Identification of Problem/Purpose of the software:

Assignment 2 wants us to design a Daily calorie calculator.We have 4 input files.There are

- Food.txt(it has several foods and Their's calories)
- People.txt(There are a lot of people and Their's personal information(age,date,height etc.)
- Sports.txt(In file there are various sports field and amount of calories burned.)
- Command.txt(There are activities in the file)

Our goal is to calculate the amount of calories to be taken daily and to find excess or incompleteness. There are many issues that need to be well known. Like;

- Java Class
- Constructor
- Access Areas(Public Private Static etc.)
- Java/ File Input /output

2. Problems and Solutions:

- I created 4 class and i save object's informaitons in class
- Class informations status are private so I use getter and setter method.
- Each Class has one Constructor. I created array of class type and i created object easy.

```
C Main.java ×   C People.java ×   C Foods.java ×   C Sports.java ×   C Commands.java ×
```
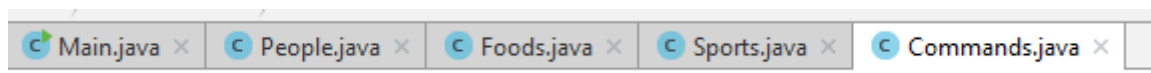
3. IMPORTANT PARTS:

- **Class Properties**

```
public class People {

    private int Id;
    private String Name;
    private String Gender;
    private int Weight;
    private int Height;
    private int Date;
    private int AlinanKalori;
    private int VerilenKalori;
    private int Gunlukihtiyac;
```

```
public class Foods {
    private int ID;
    private String NAME;
    private int CAL;


public class Sports {
    private int ID;
    private String NAME;
    private int CAL;
```

- **Constructor and Constructor Array**

```java
public People(int id, String name, String gender, int weight, int height, int date, int alinanKalori, int verilenKalori, int gunlukihtiyac) {
    Id = id;
    Name = name;
    Gender = gender;
    Weight = weight;
    Height = height;
    Date = date;
    AlinanKalori = alinanKalori;
    VerilenKalori = verilenKalori;
    Gunlukihtiyac = gunlukihtiyac;
}

public static People[] list = new People[50];
```

- **Daily Calorie Need**

```java
public static int gunlukihtiyac(String gender, int kg, int cm, int age) {
    double sonucl;
    int sonuc;
    age = 2018 - age;
    if (gender.equals("male")) {
        sonucl = (66 + ((13.75 * kg) + (5 * cm))) - (6.8 * age);

    } else {
        sonucl = (665 + ((9.6 * kg) + (1.7 * cm))) - (4.7 * age);
    }
    sonuc = (int) Math.round(sonucl);
    return (int) sonuc;
}
```

calories taken

```java
public static int kalorihesap(int yapanid, int id, int porsion) {
    int alinankal = 0;
    String name = "x";
    int i;
    for (i = 0; i < Foods.sayac; i++) {
        if (list[i].getID() == id) {
            int x = list[i].getCAL();
            name = list[i].getNAME();
            alinankal = porsion * x;
```

calories given

```java
public static int kalorihesap(int yapanid, int id, int sure) {
    double verilenkall = 0;
    int verilenkal = 0;
    String name = "x";
    int i;
    for (i = 0; i < sayac; i++) {
        if (list[i].getID() == id) {
            int x = list[i].getCAL();
            name = list[i].getNAME();
            verilenkall = (sure * x) / 60;
            verilenkal = (int) Math.round(verilenkall);
```

4. DETAILED ALGORITHMS

- Get 1 input file's path from user via command line arguments
- Create 4 class
- Create a Constructor that assigns value assignments to objects within each class
- Create a list of your own types for food and sports
- Read input files and place necessary information on array
- Daily calorie calculator calculate calories burned and calorie intake
- Read the command files, Make command and update object information
- Print information in monitoring.txt

```
11234 has taken 261kcal from elma
***************
11235 has taken 196kcal from muz
***************
11237 has taken 236kcal from kavun
***************
11234 has taken 964kcal from kilistava
***************
11235 has taken 1250kcal from kuzucevirme
***************
ahmet 31 1803kcal 1225kcal 0kcal -578kcal
***************
11235 has burned 476kcal thanks to basketball
***************
11234 has burned 102kcal thanks to billiards
***************
ahmet 31 1803kcal 1225kcal 102kcal -680kcal
gizem 32 1393kcal 1446kcal 476kcal -423kcal
mehmet 33 1748kcal 236kcal 0kcal -1512kcal
***************
12239 has taken 64kcal from nektarin
```