BODY WEIGHT BALANCING

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What is a body weight balancing ?

Purpose of this application:

Nowadays, there are very few apps of body weight balancing system in the market to warn user`s body status,and giving you a recommendation to achieve the goal. Our purpose is to do to check your body status, the case of non-compliance can give users a suitable recommendation to achieve normal status.

INTRODUCTION

This Application presents a Weight Prediction System to be used in predicting the number of days needed for a person to get to a normal weight state based on his or her Body Mass Index (BMI), Basal Metabolic Rate (BMR), Daily Food Intake Calories (DIFC). By using BMI value, the system estimates the weight value of a person, where the individual with a normal BMI has a weight value of zero. Based on BMR, the Daily Needed Calories (DNC) of a person is calculated, and from the DNC, the weight value and the DIFC, the number of days needed for a person to get a normal BMI state could be predicted.

Rationale and Motivation

In modern society, more and more people will get varying degrees of obesity due to lack of exercise, sedentary offices or at home. In modern medicine, obesity will bring a lot of risk, like digestive and pulmonary disease, or cardiovascular and gallbladder and diabetes mellitus. Most of times, except lack of exercise to obesity, food intake is the most important.So, we decided to design an application to determine if a person is obese, meanwhile, giving a suggestion of food intake and the predicted the number of days to achieve that person's normal weight.

Problem Statements

Not suitable for the crowd

Not everyone applies BMI, such as:

1. Under the age of 18.
2. An athlete.
3. Weight training is being.
4. Pregnant or breastfeeding.
5. Weak or sedentary elderly.

Goal and Objectives

The goal of this project is to design a system that can calculate a person's BMI to judge whether a person is in normal weight, then based on BMR and a person's lifestyle, automatically select food and according to a certain number of days to achieve the normal weight.

Our goal is divided into three objectives:

1. To develop an algorithm that can calculate how much calories needed to achieve the normal weight.
2. To design a framework that can recommend food, based on lifestyle and DIFC.
3. To develop a client-service application with clear presentation of calculated result.

Scope and Limitation

After some research, we found that different ethnic groups and regions will use different BMI tables.

The following are the scope of our project:

1. Client-Service Application.
2. Body Mass Index (BMI) system.
3. Basal Metabolic Rate (BMR) system.
4. Daily Needed Calories (DNC) system.
5. Automatic selection of food and Prediction of Days system.

The following are out of scope, and may be added in future versions:

1. Different ethnicity of people has different ways to calculate BMI and BMR.
2. Under the age of 18.
3. An athlete.
4. Weak or sedentary elderly.
5. More food and categories, such as Thai style, Chinese style and American style.
6. Custom select food system.

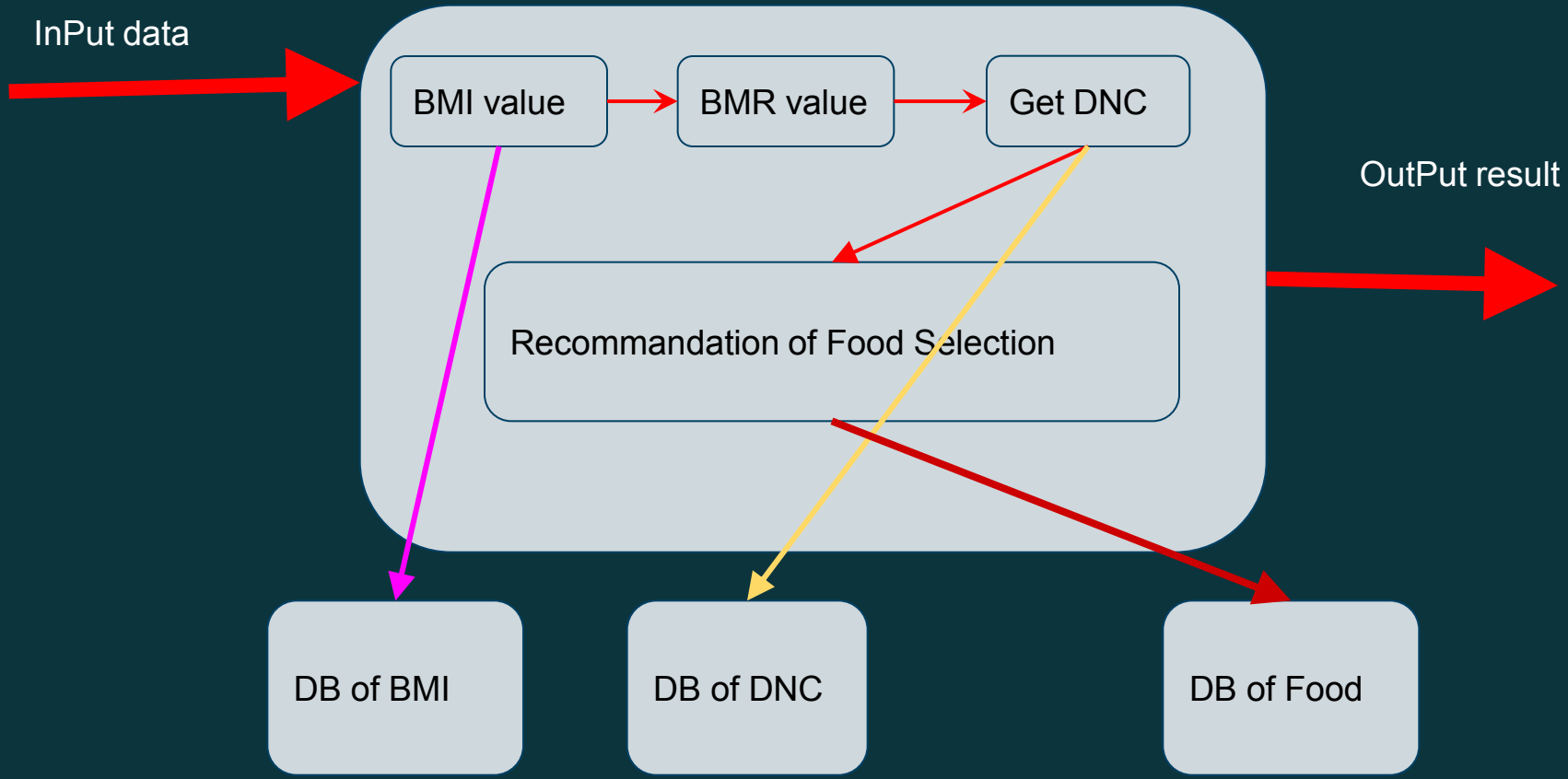
Features and Functionalities of Body Weight Balancing

This product could tell the user's status and detailed data. Unlike other applications, our products are fully automated in terms of recommending food and have a cyclical nature, which means that each day's food recommendations are different, 7 days is cyclical.

The food provided is mainly healthy and normal food, drinks and snacks are also provided. There will be provided as much as possible satisfied most people, so sub-healthy fast-food is also provided.

Function Of This Application

Body Weight Balancing Framework




B
M
I
B
Body
M
Mass
I
Index

How to get BMI?

$$\frac{\text{Body Mass(kg)}}{\text{(Body height)}^2\ (\text{m}^2)} = \text{BMI}$$

units of kg/m^2, resulting from mass in kilograms and height in metres

Health Status(Category) Form

Category	BMI (kg/m^2)	
	from	to
Very severely underweight		15
Severely underweight	15	16
Underweight	16	18.5
Normal (healthy weight)	18.5	25
Overweight	25	30
Obese Class I (Moderately obese)	30	35
Obese Class II (Severely obese)	35	40
Obese Class III (Very severely obese)	40	

If Danny's body weight is 54 kg, height is 1.62 meters , so his BMI is about 20.5kg/m^2

Why we use BMI

From BMI , it is possible to get health status of a person in term(overweight , normal or lowerweight) of BMI level

How our application work?

If a person is overweight as his or her BMI , then findout the overweight value .

w(upper & lower) = BMI(normal) * $(height)^2$

overweight (min) = weight - w(upper)

A person with weight 73kg and height 1.56m → BMI=30

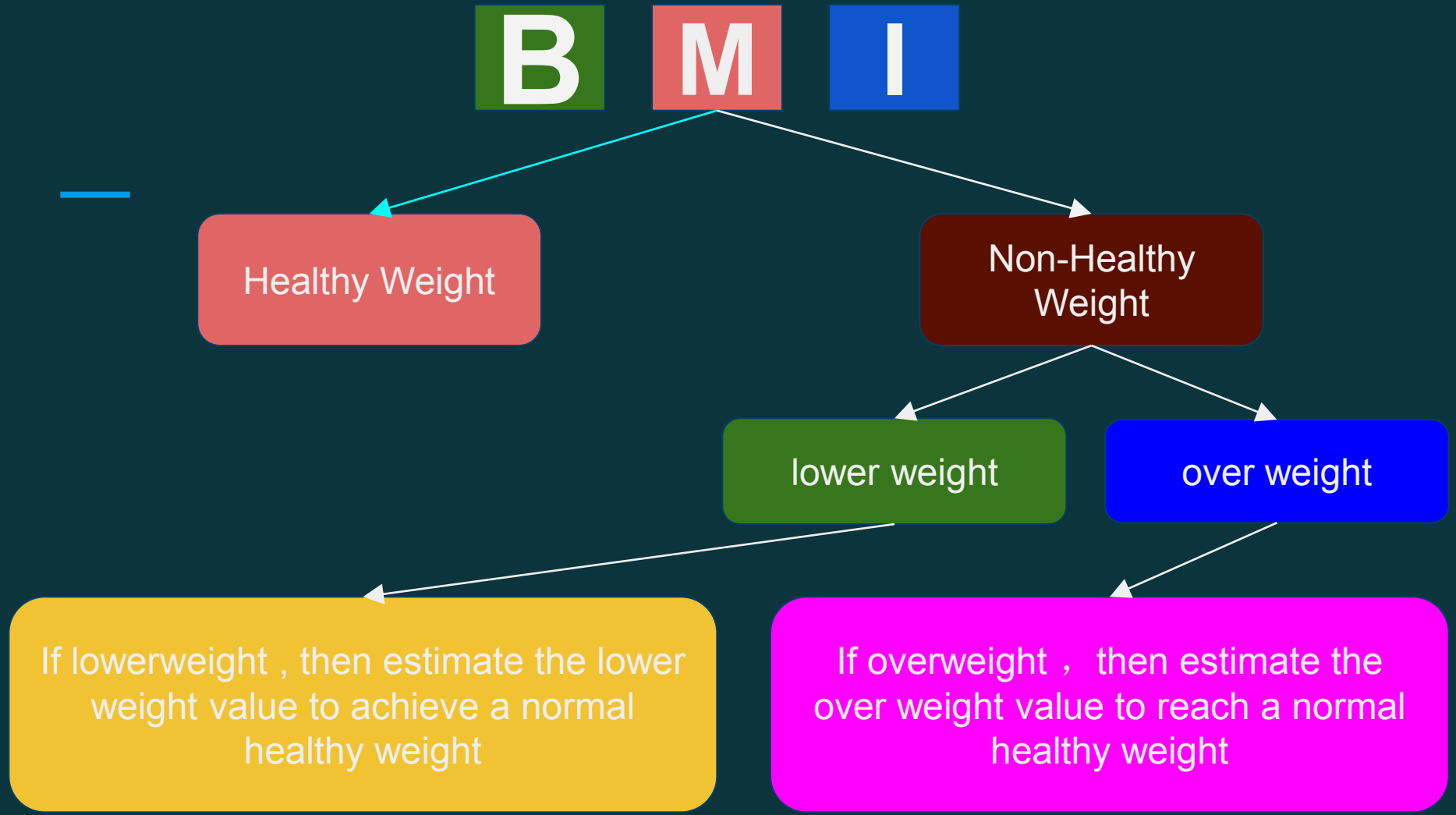
→ w(upper)=60 and w(lower) = 45 →

overweight(min) = 13 kg

Similarly, if a person is lowerweight as his or her BMI , then find out the lowerweight value .

$$L(\text{upper \& lower}) = BMI(\text{normal}) * (\text{height})^2$$

$$\text{Lowerweight (min)} = L(\text{lower}) - \text{weight}$$


B M I
Healthy Weight
Non-Healthy Weight
lower weight
over weight
If lowerweight , then estimate the lower weight value to achieve a normal healthy weight
If overweight， then estimate the over weight value to reach a normal healthy weight

B = Basal

M = Metabolic

R = Rate

The body in the basic state of energy metabolism without muscle activity, environment temperature, food and mental stress and other factors affect the state

It will get a person's energy in calorie to maintain the body as his or her weight , height , age , gender and daily activity.

How to get BMR?

Men:
88.362 + (13.397 * weight in kilogram) + （4.799 * height in centimeter) - (5.677 * age in year)

Women:
447.593 + (9.247 * weight in kilogram) + （3.098 * height in centimeter) - (4.33 * age in year)

If a man with weight is 98 kg, height is 164cm , and age is 43 years-old.

BMR = 88.362+(13.397*98)+(4.799*164)-(5.677*43) = 1944 calories

Daily needed calories

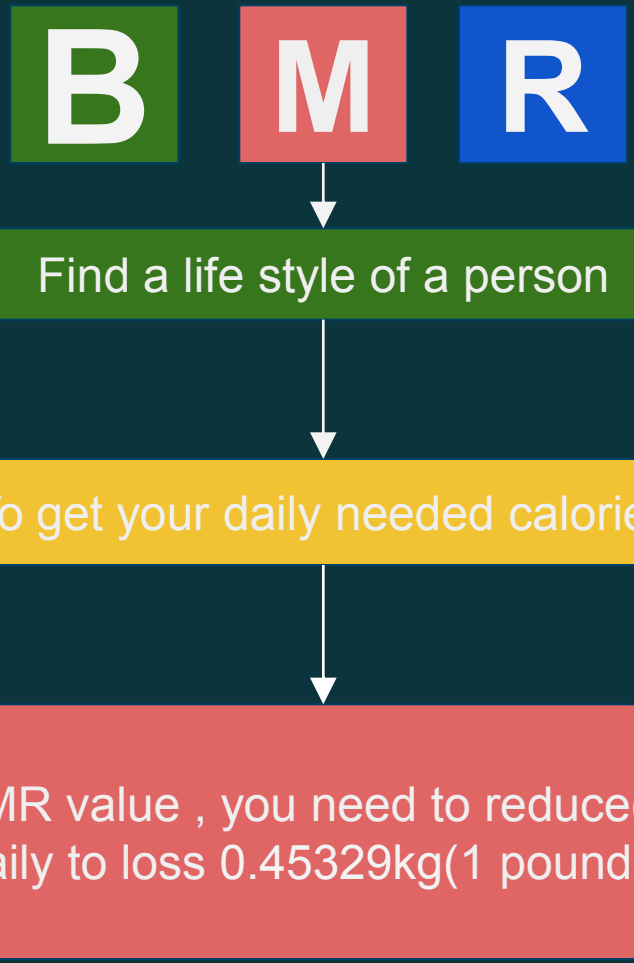
Daily Needed Calories :

Daily Physical Activity	DNC
Sedentary or little active(no exercise+desk job)	BMR x 1.2
Lightly active(light exercise 1-3 days a week)	BMR x 1.375
Moderately active(exercise 3-5 days a week)	BMR x 1.55
Very active(exercise 6-7 days a week)	BMR x 1.725
Extra active(sports and physical job)	BMR x 1.9

DNC = BMR*1.375 =1944 * 1.375 =2673 calories

keep ((DNC - 500) = xxxx calories) to loss your weoght .

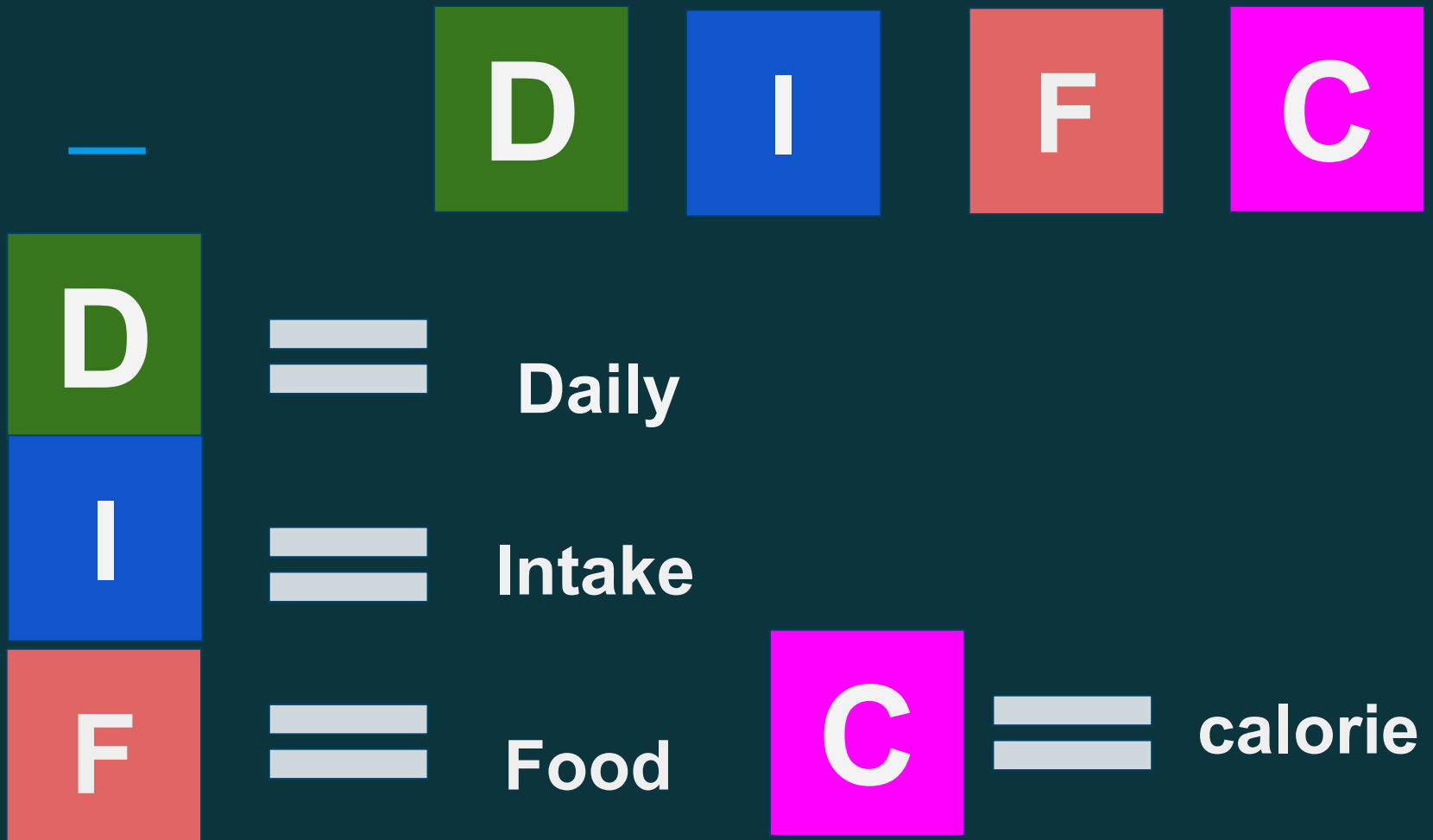
keep ((DNC + 500) = xxxx calories) to add your weoght .


B
M
R
Find a life style of a person
To get your daily needed calories
From daily BMR value , you need to reduce(increase) 500 calories daily to loss 0.45329kg(1 pound) per week

From BMR value, if a person will be able to reduce 500 calories per day , it will result 0.45329kg weight reduction in 1 week

(DNC - 500) * 7 = 0.45392 kg

(DNC + 500) * 7 = 0.45392 kg


D
I
F
C
D
Daily
I
Intake
F
Food
C
calorie

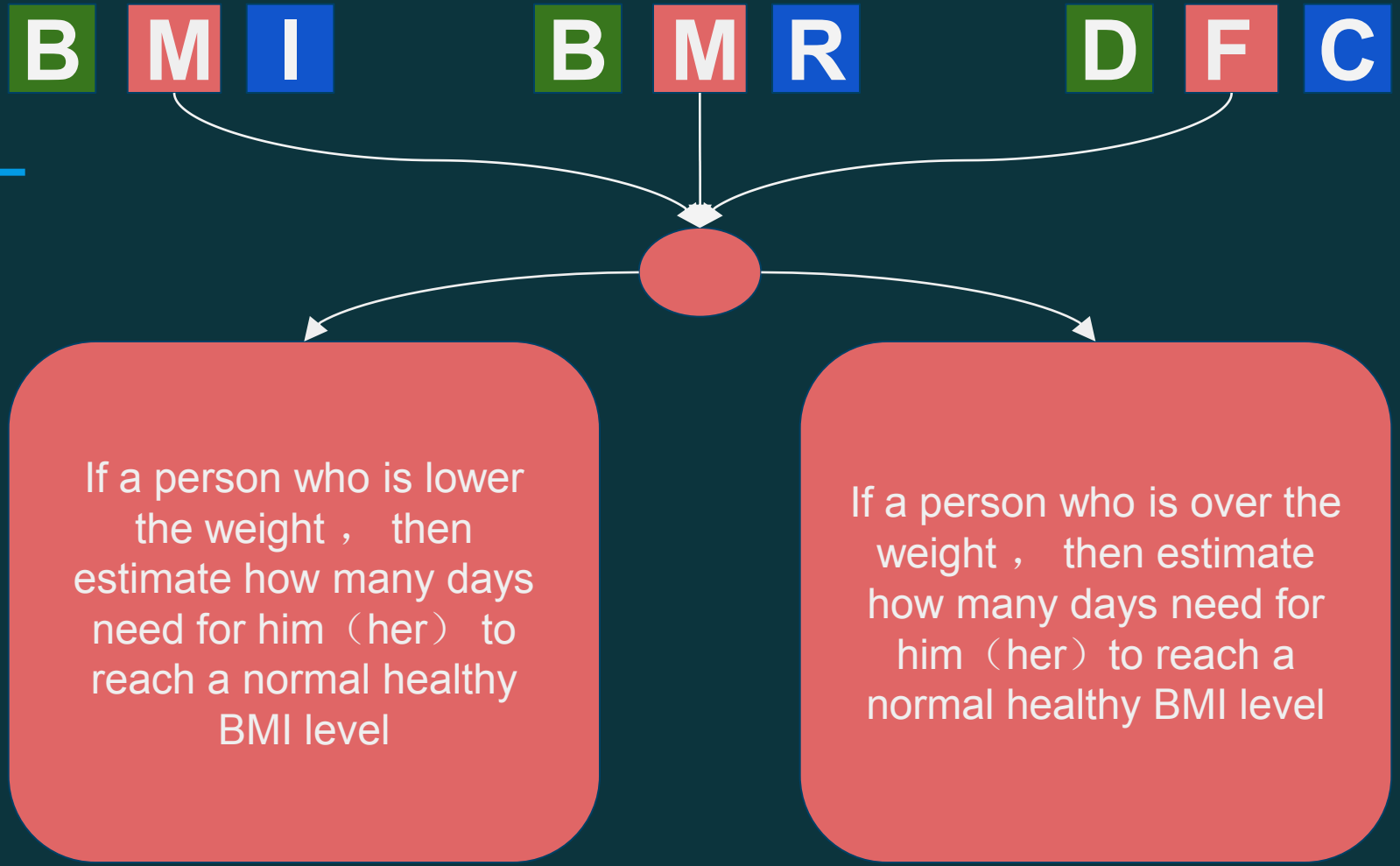
Provide some food and beverages， meanwhile provide their calories.You can customize the selection ,how to match them by self. After selection ,calculate the total of Calorie and calculate days in order to predict the number of days to reach the weight state of normal BMI.(with DNC, DFI and overweight (lowerweight)value).

If the DFI is less than DNC-500 , then the (PRC)Percentage reduction in Calorie could be calculated , or it will not to predict the number of days.

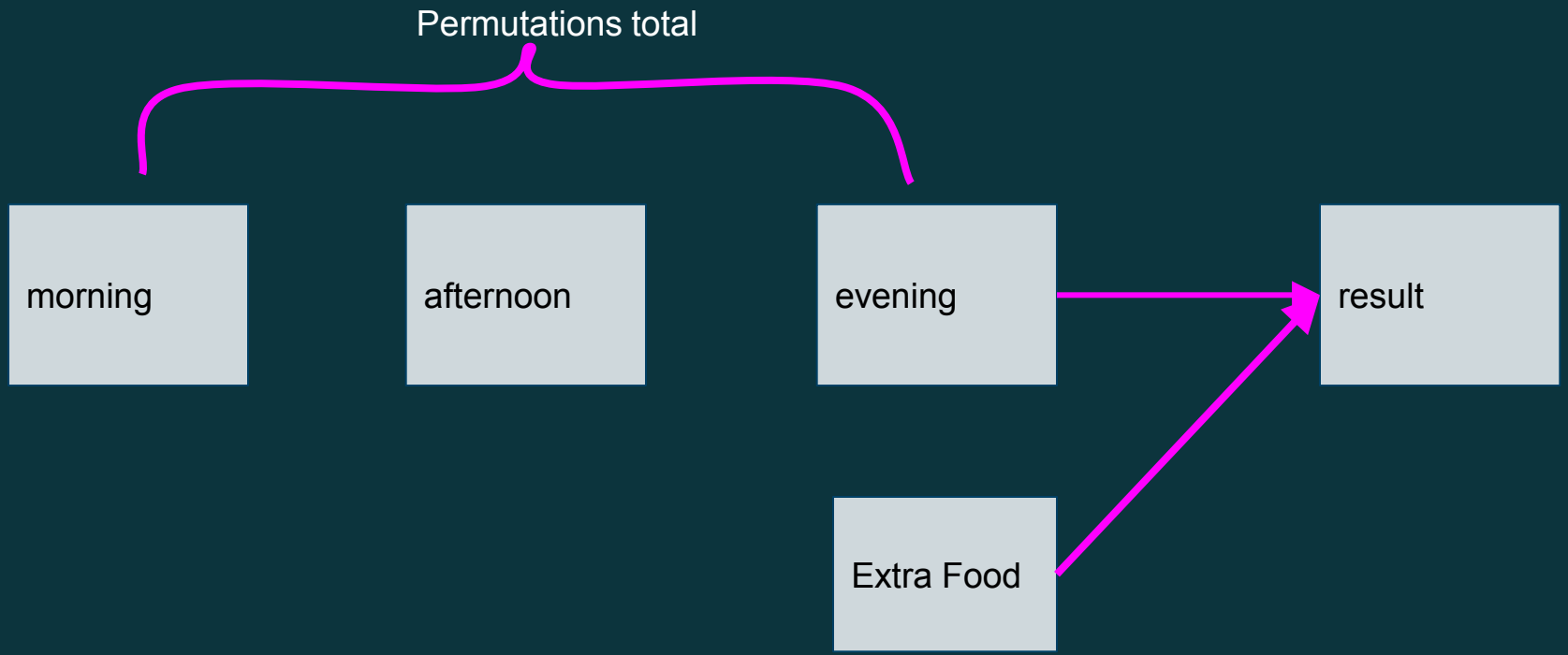
PRC(Percentage reduction in Calorie)=(((DNC-500)-DFI) / (DNC-500)) * 100
EWR(Earned weight reduction) = 0.45392 * PRC
(OWR)over weight reduction = .045392 + EWR
NDN(Minimum number of days needed) = overweight(min)/(owr/7)

If the DFI is greater than DNC+500 , then the (PRC)Percentage reduction in Calorie could be calculated , or it will not to predict the number of days.

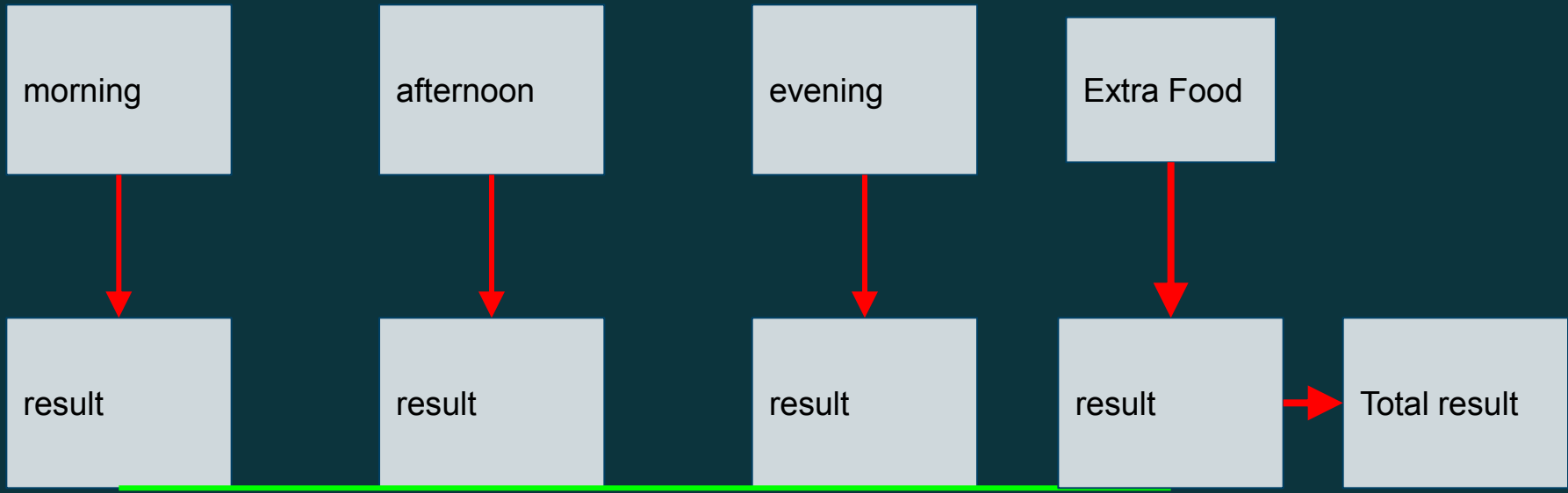
PAC(Percentage Addition in Calorie)=((DFI-(DNC+500)) / (DNC+500)) * 100
EWW(Earned weight per week) = ((0.45392 * PAC)/100) + 0.45392
NDN(Minimum number of days needed) = lowerweight(min)/(EWW/7)


B M I
B M R
D F C
If a person who is lower the weight， then estimate how many days need for him（her） to reach a normal healthy BMI level
If a person who is over the weight， then estimate how many days need for him（her）to reach a normal healthy BMI level

The way of food selection



fixed concept of divide food calorie



Problems and Solution

1. Boundary value problem (BMI)

We encountered a problem dealing with BMI values, such as the maximum BMI normal boundary is 24.9, if a person's BMI value is exactly 24.9, the system cannot be displayed.

Solution: Because we are accurate to the last three digits at the exact decimal point, and if not, we can solve the problem. The way we solve it is that we have only 1 digit.

2. Exception handling (connect to SQL)

After ping ip address, if we connect to a database on another computer, it works, but after a while, the connection was unsuccessful.

Solution: Because in the same network environment, imp address changes often, so we switched to the use of the computer's name to connect to solve this problem

3. The rationality of calculation (select food DIFC)

We have considered if we should arrange the food without dividing it. If so, the performance of the computer running is important because the computational complexity of permutations and combinations is huge. Moreover, after the calculation of the results may be impractical, such as breakfast arranged to eat watermelon, and extra food arranged pizza.

Solution: Divide the food for 4 parts: breakfast, lunch, dinner and extra food. According to the normal life, the ratio is 3:5:4:1. Different time used different tables. (Because lunch and dinner are similar, so they used common tables).

4. Calculate the time of the result, Improve performance (DIFC)

Calculate the results of a long time, about 12 seconds, regardless of the large amount of computing and computer performance factors, still think that time is a bit long.

Solution: After permutation, sort lunch and dinner first. The result is positive, only about 7 seconds to finish. Another solution is we can arrange the data in the database first. However, the disadvantage is that if we change the contents of the table (input more data or delete data), the solution fails.

Best solution (right now we are using): Thread. We use this method to handle permutation and combination. It is meaning we start the computation as soon as the App starts.

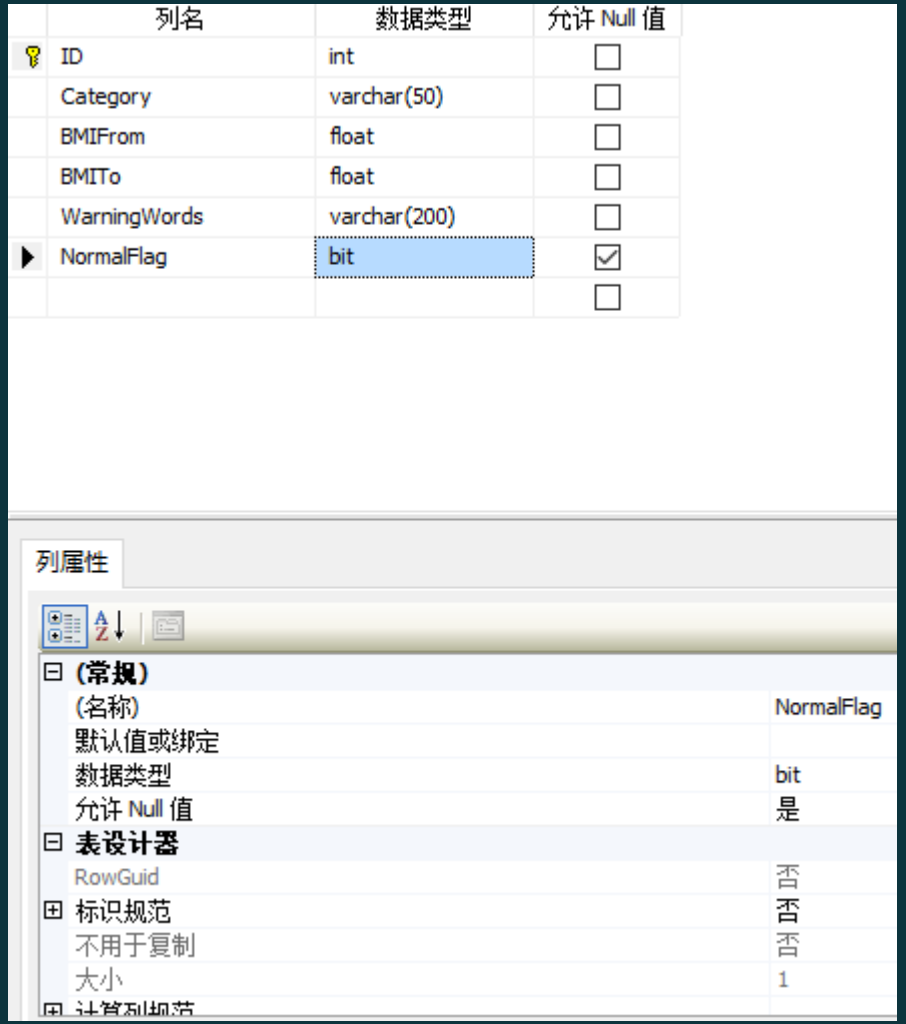
Runtime error (DIFC)

The result is not correct under normal weight status, but overweight and lower weight are okay.

Solution: No initialization.

Database Design

Set table of WeightStatusbasedOnBMI



列名	数据类型	允许 Null 值
ID	int	☐
Category	varchar(50)	☐
BMIFrom	float	☐
BMITo	float	☐
WarningWords	varchar(200)	☐
NormalFlag	bit	☑
		☐

列属性

(常规)	
(名称)	NormalFlag
默认值或绑定	
数据类型	bit
允许 Null 值	是
表设计器	
RowGuid	否
标识规范	否
不用于复制	否
大小	1
计算列规范	

Design tables of database

Weight Status based On BMI

	ID	Category	BMIFrom	BMITo	WarningWords	NormalFlag
	1	Very Severly Un...	0	14.9	You have a Very high risk developin...	False
	2	Severely Under...	15	15.9	You have a high risk developing of ...	False
	3	Under Weight	16	18.4	You have a risk developing of Digei...	False
	4	Normal Weight	18.5	24.9	You are in helth weight , please kee...	True
	6	Over Weight	25	29.9	You have a risk developing of Cardi...	False
	7	Class I Obesity	30	34.9	You have a high risk developing of ...	False
	8	Class II Obesity	35	39.9	You have a very high risk developin...	False
	9	Class III Obesity	40	1000	You have a very high risk developin...	False
▶*	NULL	NULL	NULL	NULL	NULL	NULL

DNC calculation based on BMR

	ID	DailyPhysicalActivity	DNCCoefficient
▶	1	Sedentary or little active(no exercise +desk job)	1.2
	2	Lightly active(light exercise 1-3 days a week)	1.375
	3	Moderately active(exercise 3-5 days a week)	1.55
	4	Very active(exercise 6-7 days a week)	1.725
	5	Extra active(sports and physical job)	1.9
*	*NULL*	*NULL*	*NULL*

Main-Food and their calorie

ID	FoodName	Calories
1	1 bowl rice (small LockLock bowl)(100.0 grams)	116
3	1 bowl rice (small bowl) (150.0 grams)	174
4	1 spoonful of rice (40.0 grams)	46
5	1 bowl noodles (50.0 grams)	143
6	1 (small) steamed bread (20.0 grams)	45
8	1 (large) steamed bread(120.0 grams)	268
9	1 small Maize (fresh) (106.0 grams)	118
10	1 big Maize (fresh) (191.0 grams)	214
11	1 small bread (60.0 grams)	188
12	1 piece of bread (50.0 grams)	157
13	1 large bread (120.0 grams)	313
14	1 small sweet potato (117.0 grams)	119
15	1 big sweet potato (450.0 grams)	459
17	1 small potato (122.0 grams)	94
18	1normal potato (216.0 grams)	166
19	1 large buns (with pork) (120.0 grams)	272
20	1 normal buns (with pork) (100.0 grams)	227
21	1 piece of pancake (160.0 grams)	414
22	1 piece of whole wheat bread (36.0 grams)	89
23	1 dumpling (mix pork and vegetable) (20.0 g)	45
24	1 dish fried spinach (300.0 grams)	137

Fast-Food and their calorie

ID	FoodName	Calories
2	1 McDonald Big Mac Burger(219.0 grams)	540
3	1 package instant noodles (80.0 grams)	378
5	1 sandwich (hotdog, cheese) (200.0 grams)	488
6	14-inch Meat Pan Pizza of Pizza Hut	3760
7	Cheeseburger (119 grams)	320
9	1 Set Big Breakfast (McDonald)	1350
10	1 Chicken Pai	790
11	1 Pineapple pie	221
12	1 pack (large) KFC fries (135.0 grams)	402
13	1 pack (medium) KFC fries (110.0 grams)	328
14	1 pack (small) KFC fries (75.0 grams)	224
15	1 KFC Chicken Burger (300.0 grams)	876

Beverages and their calorie

ID	Beverages	Calories
1	1 cup of Pure Water(2500.0 ml)	0
2	1 Cup of Black Coffee(200.0 ml)	2
3	1 Maxwell Original Coffee (13.0 grams)	62
7	1 Cans of Pepsi Coke Soda (355.0 ml)	148
9	1 Cup Lemon Juice (200.0 ml)	54
10	1 Cup of Orange Juice Drink (Huiyuan) (200.0 ml)	92
11	1 Packet Probiotic Solid Beverage (10.0 grams)	35
12	1 Bag Lipton Original Tea (17.0grams)	69
13	1 cup (medium) of yogurt (200.0 ml)	144
14	1 cup (medium) of yogurt (200.0 ml)	72
15	1 box of yogurt (250.0 ml)	180
16	1 cup of milk (200.0 ml)	108
17	1 box of milk (250.0 ml)	135
18	1 Bottle Master Kong ice tea (300.0 ml)	112
19	1 Cans 7up (330.0 ml)	100
20	1 carrot juice drink (250.0 ml)	60

Fruit and Snacks` calorie

ID	SnackTitle	Calories
1	1 piece (medium) Cookies (6.0 grams)	26
2	1 piece (big) Cookies (12.0 grams)	52
3	1 piece (small) Cookies (3.0 grams)	13
4	1 Cake (yellow cake) (150.0 grams)	480
5	1 bag Chocolate Popcorn (9.0 grams)	47
6	1 block of (small) chocolate (5.0 grams)	29
7	1 block chocolate (12.0 grams)	71
8	1 (ball) Ice Cream (50.0 grams)	64
9	1 Mooncake (with egg) (100.0grams)	399
10	1 potato chips (spicy) (3.0 grams)	14
12	1 Lemon (58 grams)	15
13	1 Orange (109 grams)	50
14	1 Pineapple (112 grams)	50
15	1 Cantaloupe (134 grams)	50

Prepare to calculate of breakfast about eat of calorie

ID	FoodName	Calories
1	1 McDonald Big Mac Burger(219.0 grams)	540
2	1 package instant noodles (80.0 grams)	378
3	1 sandwich (hotdog, cheese) (200.0 grams)	488
4	1 Cheeseburger (119 grams)	320
5	1 Set Big Breakfast (McDonald)	1350
6	1 Chicken Pai	790
7	1 Pineapple pie	221
8	1 pack (large) KFC fries (135.0 grams)	402
9	1 pack (medium) KFC fries (110.0 grams)	328
10	1 pack (small) KFC fries (75.0 grams)	224
11	1 KFC Chicken Burger (300.0 grams)	876
15	1 piece of bread (50.0 grams)	157
16	1 large bread (120.0 grams)	313
17	1 piece of whole wheat bread (36.0 grams)	89

Prepare to calculate of breakfast about drink of calorie

ID	DrinkName	Calories
1	1 cup of Pure Water(2500.0 ml)	0
2	1 Cup of Black Coffee(200.0 ml)	2
3	1 Maxwell Original Coffee (13.0 grams)	62
4	1 cup (medium) of yogurt (200.0 ml)	144
5	1 cup (medium) of yogurt (200.0 ml)	72
6	1 box of yogurt (250.0 ml)	180
7	1 cup of milk (200.0 ml)	108
8	1 box of milk (250.0 ml)	135

Prepare to calculate of lunch and dinner about eat of calorie

ID	FoodName	Calories
1	1 bowl rice (small bowl) (150.0 grams)	174
2	1 spoonful of rice (40.0 grams)	46
3	1 bowl rice (small LockLock bowl)(100.0 grams)	116
4	1 bowl noodles (50.0 grams)	143
5	1 small Maize (fresh) (106.0 grams)	118
6	1 big Maize (fresh) (191.0 grams)	214
7	1 small sweet potato (117.0 grams)	119
8	1 big sweet potato (450.0 grams)	459
9	1 small potato (122.0 grams)	94
10	1normal potato (216.0 grams)	166
11	1 large buns (with pork) (120.0 grams)	272
12	1 normal buns (with pork) (100.0 grams)	227
13	1 piece of pancake (160.0 grams)	414
14	1 (small) steamed bread (20.0 grams)	45
15	1 small bread (60.0 grams)	188
16	1 piece of bread (50.0 grams)	157

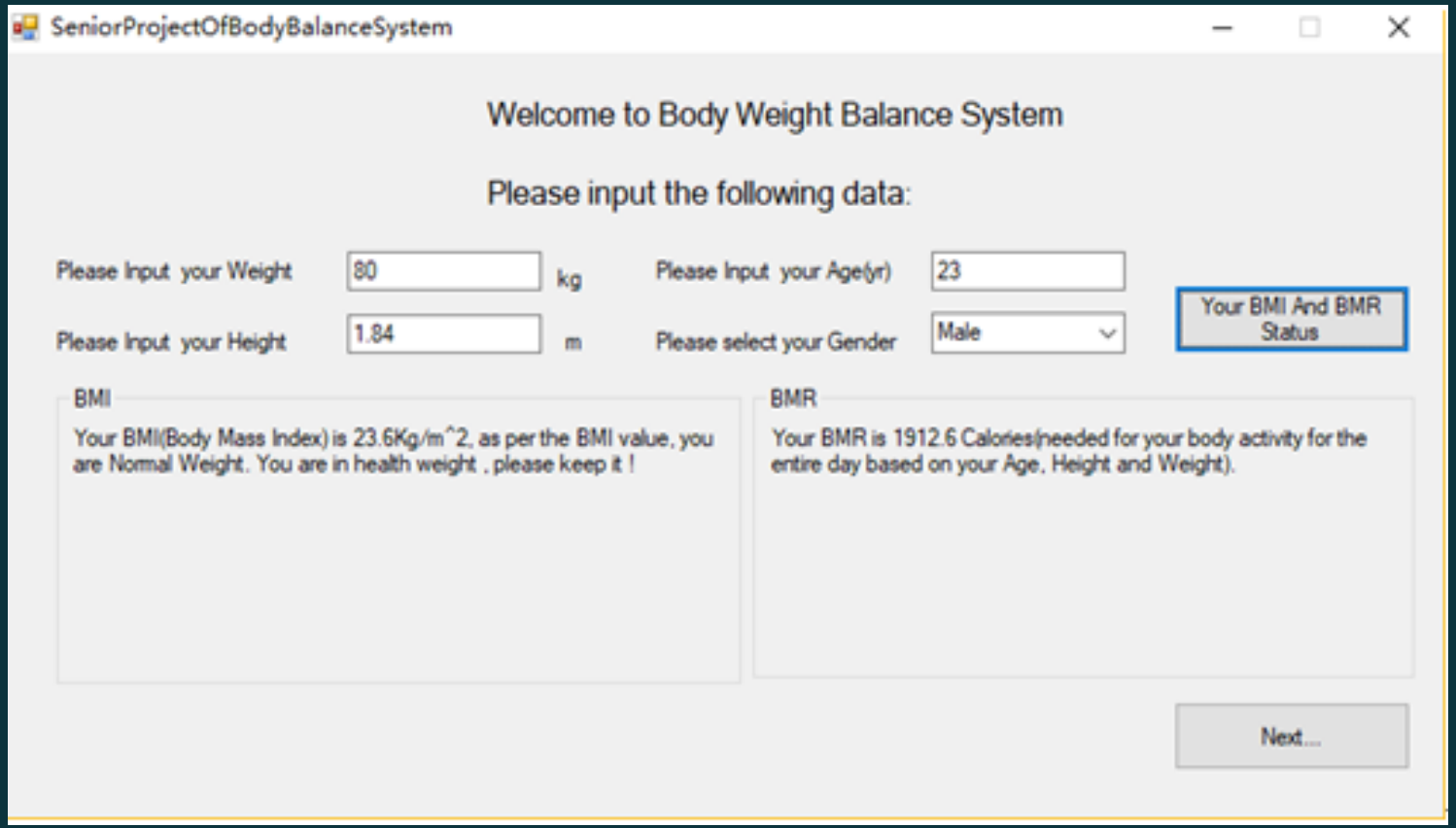
Prepare to calculate of lunch and dinner about drink of calorie

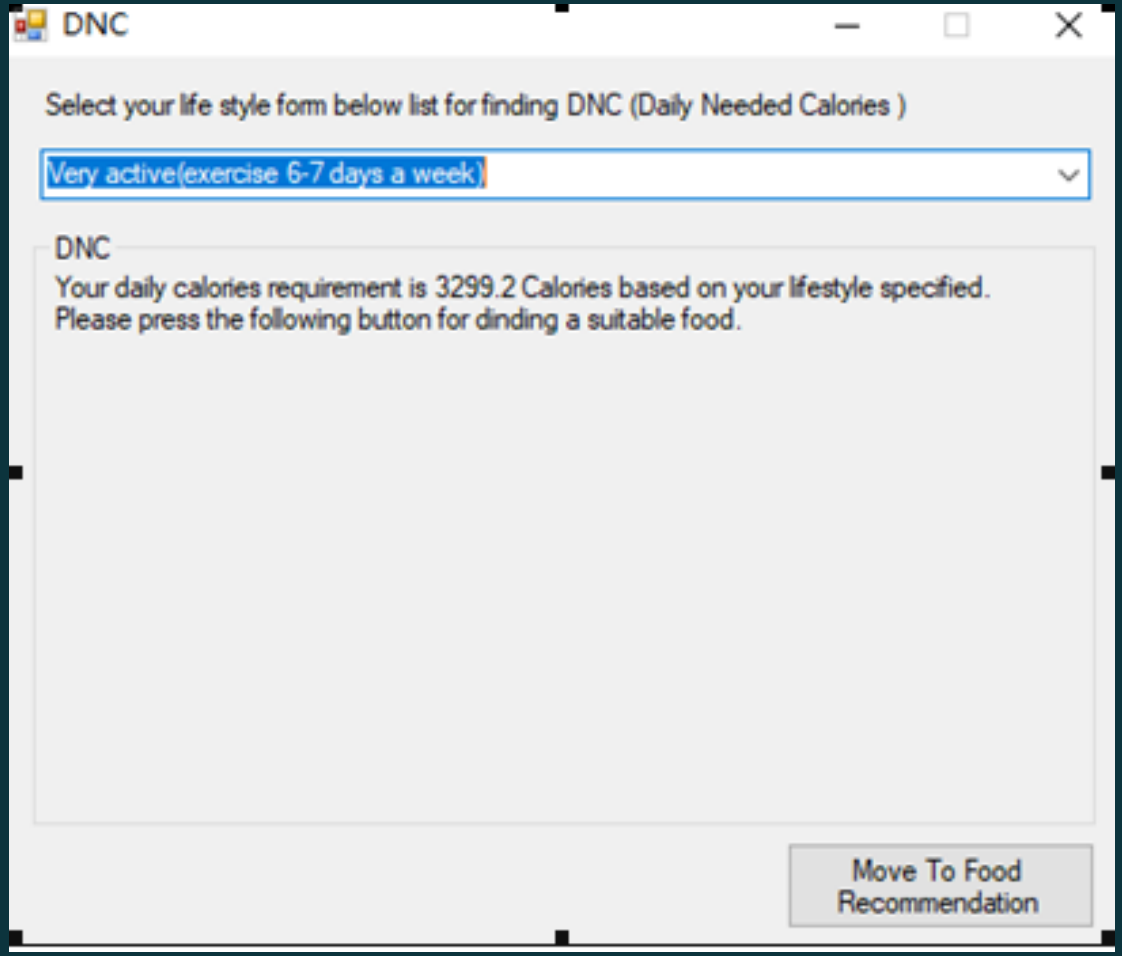
ID	DrinkName	Calories
1	1 cup of Pure Water(2500.0 ml)	0
2	1 Cans of Pepsi Coke Soda (355.0 ml)	148
3	1 Cup Lemon Juice (200.0 ml)	54
4	1 Cup of Orange Juice Drink (Huiyuan) (200.0 ml)	92
5	1 Packet Probiotic Solid Beverage (10.0 grams)	35
6	1 Bag Lipton Original Tea (17.0grams)	69
7	1 Cans of Coca Cola (245.0 ml)	131
8	1 Bottle Master Kong ice tea (300.0 ml)	112
9	1 Cans 7up (330.0 ml)	100
10	1 carrot juice drink (250.0 ml)	60

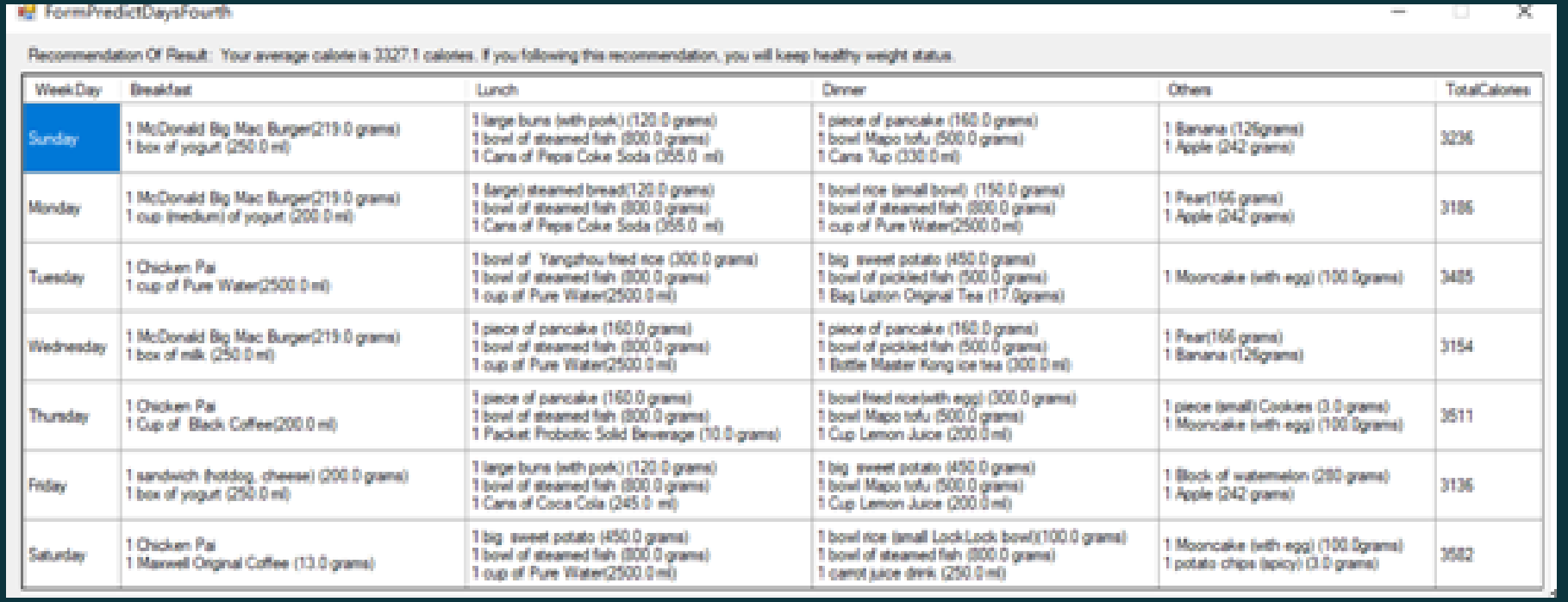
Prepare to calculate of lunch and dinner about dish of calorie

ID	FoodName	Calories
1	1 dish fried spinach (300.0 grams)	137
2	1 dish fried cabbage (200.0 grams)	91
3	1 dish of eggplant (350.0 grams)	260
4	1 dish fried vegetables (300.0 grams)	123
5	1 dish of eggplant (350.0 grams)	260
6	1 dish fried green bean sprouts (250.0 grams)	75
7	1 dish hot and sour potatoes (300.0 grams)	365
8	1 dish refreshing broccoli (300.0 grams)	104
9	1 dish fried cabbage (light version) (300.0 grams)	118
10	1 bowl of steamed fish (800.0 grams)	841
11	1 bowl of pickled fish (500.0 grams)	488
12	1 dish fried celery (250.0 grams)	89
13	1 bowl Mapo tofu (500.0 grams)	501
14	1 bowl of Yangzhou fried rice (300.0 grams)	439
15	1 dish of fried carrot slices (300.0 grams)	187
16	1 dish of braised tofu (300.0 grams)	203

Sample of Application, final performance


SeniorProjectOfBodyBalanceSystem
Welcome to Body Weight Balance System
Please input the following data:
Please Input your Weight
80
kg
Please Input your Age(yr)
23
Your BMI And BMR Status
Please Input your Height
1.84
m
Please select your Gender
Male
BMI
Your BMI(Body Mass Index) is 23.6Kg/m^2, as per the BMI value, you are Normal Weight. You are in health weight , please keep it !
BMR
Your BMR is 1912.6 Calories/needed for your body activity for the entire day based on your Age, Height and Weight).
Next...


DNC
Select your life style form below list for finding DNC (Daily Needed Calories)
Very active(exercise 6-7 days a week)
DNC
Your daily calories requirement is 3299.2 Calories based on your lifestyle specified.
Please press the following button for dinding a suitable food.
Move To Food Recommendation


FormPredictDaysFourth
Recommendation Of Result : Your average calorie is 3327.1 calories. If you following this recommendation, you will keep healthy weight status.
WeekDay
Breakfast
Lunch
Dinner
Others
TotalCalories
Sunday
1 McDonald Big Mac Burger(219.0 grams)
1 box of yogurt (250.0 ml)
1 large buns (with pork) (120.0 grams)
1 bowl of steamed fish (800.0 grams)
1 Cans of Pepsi Coke Soda (355.0 ml)
1 piece of pancake (160.0 grams)
1 bowl Mapo tofu (500.0 grams)
1 Cans 7up (330.0 ml)
1 Banana (126grams)
1 Apple (242 grams)
3236
Monday
1 McDonald Big Mac Burger(219.0 grams)
1 cup (medium) of yogurt (200.0 ml)
1 (large) steamed bread(120.0 grams)
1 bowl of steamed fish (800.0 grams)
1 Cans of Pepsi Coke Soda (355.0 ml)
1 bowl rice (small bowl) (150.0 grams)
1 bowl of steamed fish (800.0 grams)
1 cup of Pure Water(2500.0 ml)
1 Pear(166 grams)
1 Apple (242 grams)
3186
Tuesday
1 Chicken Pai
1 cup of Pure Water(2500.0 ml)
1 bowl of Yangzhou fried rice (300.0 grams)
1 bowl of steamed fish (800.0 grams)
1 cup of Pure Water(2500.0 ml)
1 big sweet potato (450.0 grams)
1 bowl of pickled fish (500.0 grams)
1 Bag Lipton Original Tea (17.0grams)
1 Mooncake (with egg) (100.0grams)
3485
Wednesday
1 McDonald Big Mac Burger(219.0 grams)
1 box of milk (250.0 ml)
1 piece of pancake (160.0 grams)
1 bowl of steamed fish (800.0 grams)
1 cup of Pure Water(2500.0 ml)
1 piece of pancake (160.0 grams)
1 bowl of pickled fish (500.0 grams)
1 Bottle Master Kong ice tea (300.0 ml)
1 Pear(166 grams)
1 Banana (126grams)
3154
Thursday
1 Chicken Pai
1 Cup of Black Coffee(200.0 ml)
1 piece of pancake (160.0 grams)
1 bowl of steamed fish (800.0 grams)
1 Packet Probiotic Solid Beverage (10.0 grams)
1 bowl fried rice(with egg) (300.0 grams)
1 bowl Mapo tofu (500.0 grams)
1 Cup Lemon Juice (200.0 ml)
1 piece (small) Cookies (3.0 grams)
1 Mooncake (with egg) (100.0grams)
3511
Friday
1 sandwich (hotdog, cheese) (200.0 grams)
1 box of yogurt (250.0 ml)
1 large buns (with pork) (120.0 grams)
1 bowl of steamed fish (800.0 grams)
1 Cans of Coca Cola (245.0 ml)
1 big sweet potato (450.0 grams)
1 bowl Mapo tofu (500.0 grams)
1 Cup Lemon Juice (200.0 ml)
1 Block of watermelon (280 grams)
1 Apple (242 grams)
3136
Saturday
1 Chicken Pai
1 Maxwell Original Coffee (13.0 grams)
1 big sweet potato (450.0 grams)
1 bowl of steamed fish (800.0 grams)
1 cup of Pure Water(2500.0 ml)
1 bowl rice (small Lock Lock bowl)(100.0 grams)
1 bowl of steamed fish (800.0 grams)
1 carrot juice drink (250.0 ml)
1 Mooncake (with egg) (100.0grams)
1 potato chips (spicy) (3.0 grams)
3582

a person of the weight is 65 kg, height is 1.68 m, age of 23 years-old, female, and the lifestyle is lightly active (lightly exercises 1-3 days a week).

a person of the weight is 85 kg, height is 1.84 m, age of 23 years-old, male, and the lifestyle is Moderately active (exercises 3-5 days a week).

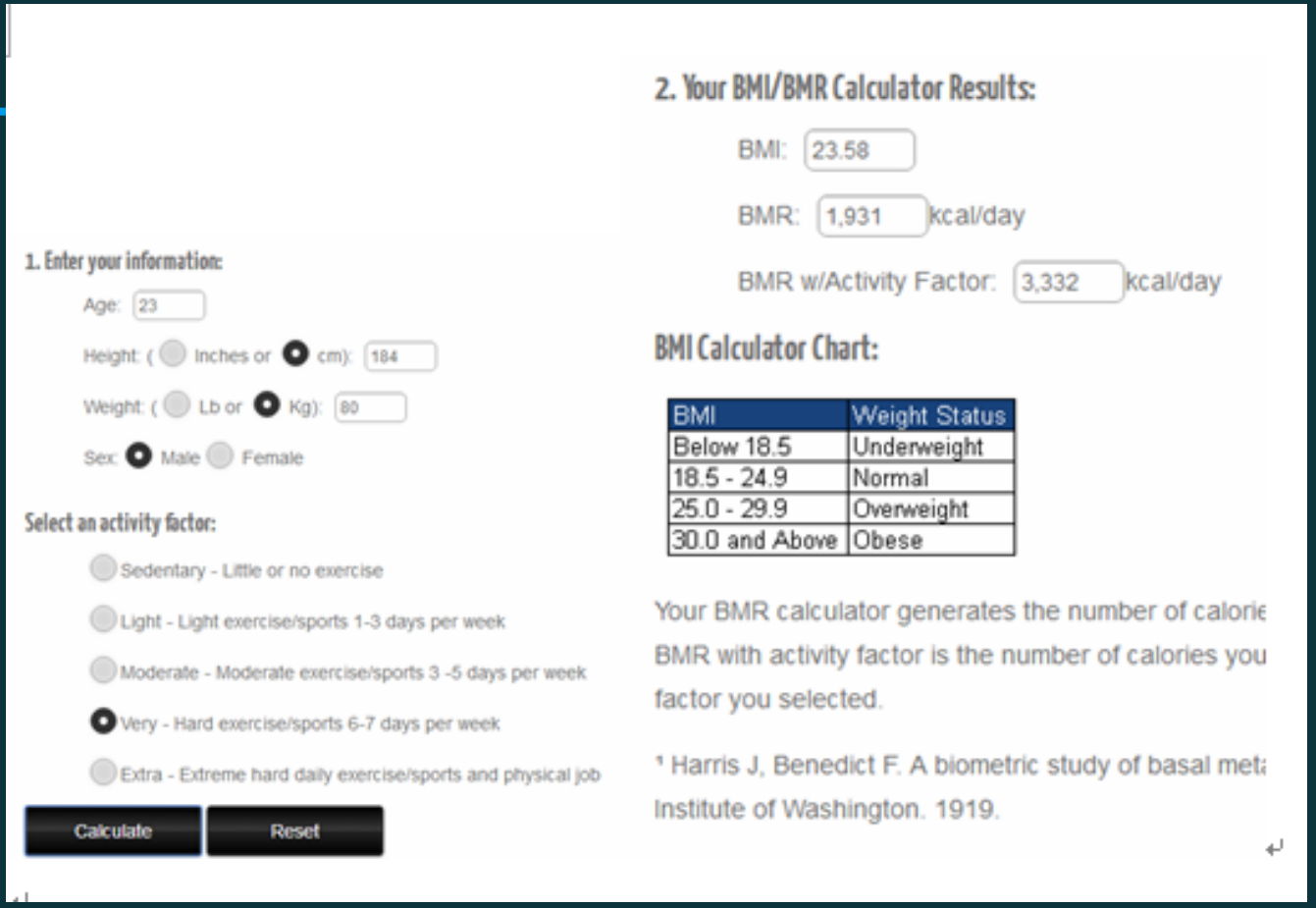
a person of the weight is 80 kg, height is 1.68 m, age of 27 years-old, female, and the lifestyle is Sedentary or little active (no exercise + desk job).

a person of the weight is 56 kg, height is 1.78 m, age of 26 years-old, male, and the lifestyle is Sedentary or little active (no exercise + desk job).

a person of the weight is 40 kg, height is 1.68 m, age of 26 years-old, female, and the lifestyle is lightly active (lightly exercises 1-3 days a week).

a person of the weight is 80kg, height is 1.84m, age of 23 years-old, male, and the lifestyle is very active (exercises 6-7 days a week).

PRODUCT COMPARISON



1. Enter your information:

Age: 23

Height: (Inches or cm): 184

Weight: (Lb or Kg): 80

Sex: Male Female

Select an activity factor:

Sedentary - Little or no exercise

Light - Light exercise/sports 1-3 days per week

Moderate - Moderate exercise/sports 3 -5 days per week

Very - Hard exercise/sports 6-7 days per week

Extra - Extreme hard daily exercise/sports and physical job

Calculate Reset

2. Your BMI/BMR Calculator Results:

BMI: 23.58

BMR: 1,931 kcal/day

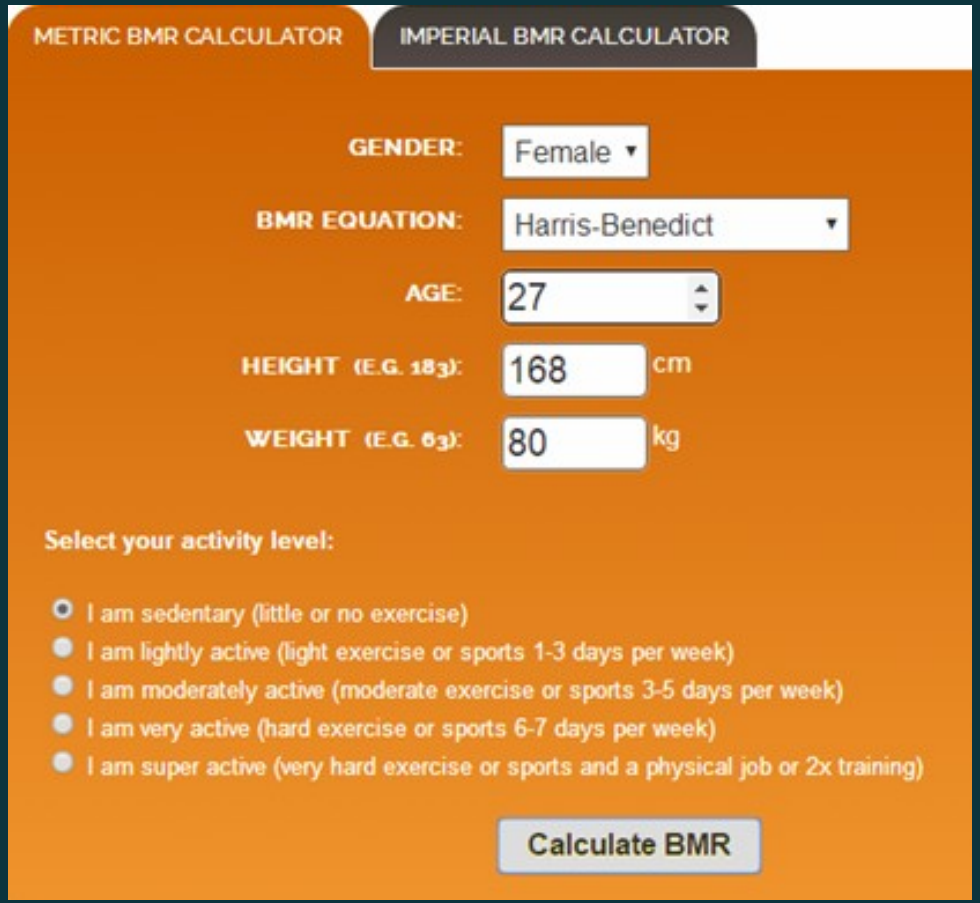
BMR w/Activity Factor: 3,332 kcal/day

BMI Calculator Chart:

BMI	Weight Status
Below 18.5	Underweight
18.5 - 24.9	Normal
25.0 - 29.9	Overweight
30.0 and Above	Obese

Your BMR calculator generates the number of calorie
BMR with activity factor is the number of calories you
factor you selected.

[1] Harris J, Benedict F. A biometric study of basal met
Institute of Washington. 1919.


METRIC BMR CALCULATOR
IMPERIAL BMR CALCULATOR
GENDER:
Female
BMR EQUATION:
Harris-Benedict
AGE:
27
HEIGHT (E.G. 183):
168
cm
WEIGHT (E.G. 63):
80
kg
Select your activity level:
I am sedentary (little or no exercise)
I am lightly active (light exercise or sports 1-3 days per week)
I am moderately active (moderate exercise or sports 3-5 days per week)
I am very active (hard exercise or sports 6-7 days per week)
I am super active (very hard exercise or sports and a physical job or 2x training)
Calculate BMR

BMR Calculation Result:

1605

This means that your body will burn **1605** calories (6720 kilojoules) each day if you engage in no activity for the entire day.

Based upon this, your daily calorie requirement would be 1926 calories (8064 kilojoules).

These calculations are for a female of 27 years of age with the height, weight and lifestyle you specified, using the Harris-Benedict equation.

CONCLUSION

Compare with previous applications, t our application has many advantages:

1. More clearly and details to show the data.
2. We provided food recommendation of select food, better to help users manage body status.
3. Most of the previous apps only a single BMI value or only the BMR value. Good situation is also include DNC and DFIC value, and a brief description of the situation, but no food recommended to maintain or keep body status.
4. We are more accurate data based on the latest BMI value, BMR value updated.
5. We increase the risk words of overweight or lower weight status.

The project is based on the following paper:

K.G Anilkumar, “Recommended Weight Prediction System Based on BMI,BMR,Food Calorie and a Neural Network”, Proceedings of ICIIBMS 2017 (IEEE Xplore), Okinawa, Japan, pp-15-22

THANK YOU