

# 04.07 Assignment Instructions

Instructions: Write a program to calculate total daily energy expenditure.



## About TDEE:

The total daily energy expenditure (TDEE) is the amount of calories your body burns in 24 hours to support your basal metabolic rate and any additional activities you undertake. TDEE is calculated according to the following formula:  $TDEE = BMR * AF$ , where BMR is the basal metabolic rate and AF is the activity factor.

For a female with a BMR of 1312 and a moderate activity level, her TDEE would be  $1312 * 1.6 = 2099.2$  calories/day. A person's activity factor is determined by gender and a person's activity level, as described in the table below:

Activity Level	Activities	Activity Factor	
		Male	Female
Resting	Sleeping, reclining	1.0	1.0
Sedentary	Minimal movement, mainly sitting/lying down (e.g., watching TV, reading, etc.)	1.3	1.3
Light	Office work, sitting (e.g., walking, laundry, walking on level ground at 2.5 – 3.0 mph).	1.6	1.5
Moderate	Light manual labor (e.g., dancing, cycling, gardening, etc.)	1.7	1.6
Very Active	Hard manual labor (e.g., team sports, climbing, agricultural labor, etc.)	2.1	1.9
Extremely Active	Heavy manual labor (e.g., full-time athletes, construction workers, etc.)	2.4	2.2

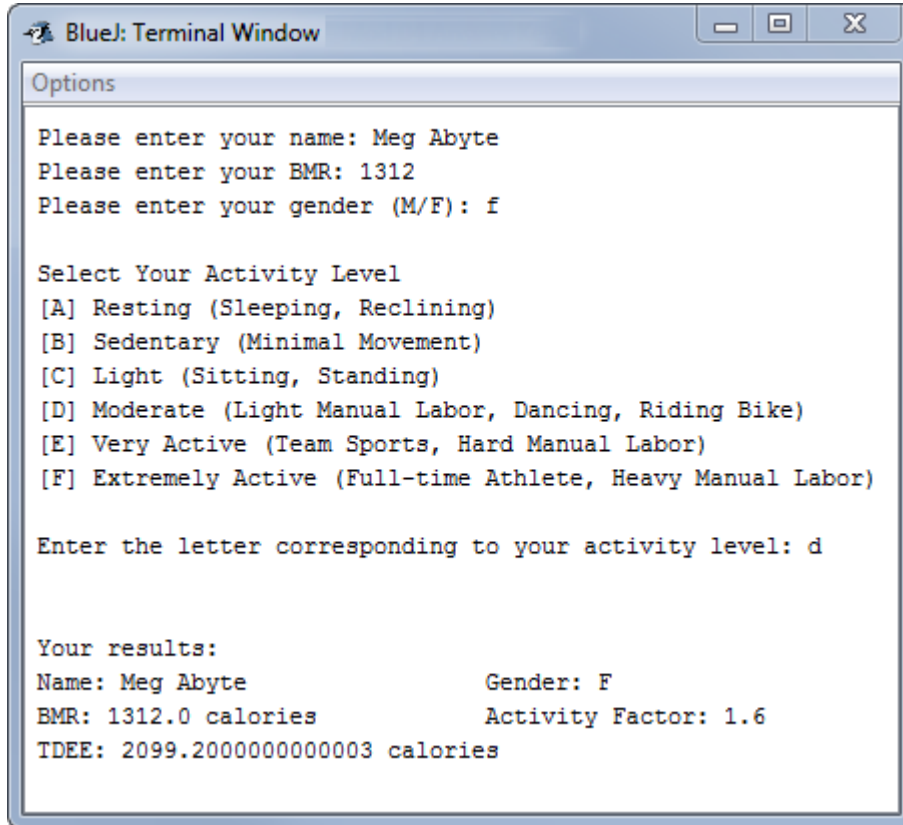
## Program Details:

1. Create a new project called 04.07 TDEE in your Mod04 Assignments folder.
2. Create a class called TDEE in the newly-created project folder.
3. This program should ask the user for their name, gender, and BMR.
4. Present the user with a menu of activity levels. The menu options should not be numeric. The user needs to be alerted if a non-menu item is entered.
5. The program needs to work properly for upper and lowercase input.
6. Calculate the TDEE based on gender and activity factor.
7. Design a user-friendly menu and neatly display the results after all user input is collected.

8. Logical operators need to be used. There are multiple ways they can be incorporated into this program. Your design choices will determine where and how the logical operators are used.

You will save a significant amount of time if you take five minutes and design your menu and at least make a pseudocode outline of the structure of your program.

Expected Output: The design of the screen display for user input, the menu, and the program output is completely up to you; just be sure it is user-friendly.



```
BlueJ: Terminal Window
Options
Please enter your name: Meg Abyte
Please enter your BMR: 1312
Please enter your gender (M/F): f

Select Your Activity Level
[A] Resting (Sleeping, Reclining)
[B] Sedentary (Minimal Movement)
[C] Light (Sitting, Standing)
[D] Moderate (Light Manual Labor, Dancing, Riding Bike)
[E] Very Active (Team Sports, Hard Manual Labor)
[F] Extremely Active (Full-time Athlete, Heavy Manual Labor)

Enter the letter corresponding to your activity level: d

Your results:
Name: Meg Abyte          Gender: F
BMR: 1312.0 calories     Activity Factor: 1.6
TDEE: 2099.2000000000003 calories
```