+*In[15]:*+
[source, ipython3]

```
def main():
    welcome()
    gender = sex()
    weight = get_weight()
    height = get_height()
    age = get_age()
    resting_bmi = calculate_bmi(gender, weight, height, age) #calcluates resting
bmi
    final_calculation(resting_bmi)

def welcome():
    print("Calculate your Body Mass Index (BMI)!\nFind out how many daily calories
you need to maintain your current body weight.\n")

#calculate total daily calories based on bmi and and activity level
def final_calculation(resting_bmi):
    user_activity_lvl = get_user_activity()#ask for user activity level
    maintain = {"sedentary" : get_sedentary(resting_bmi) , "lite" :
get_lite_activity(resting_bmi), "moderate" : get_moderate_activity(resting_bmi),
"active" : get_very_active(resting_bmi)}
    if user_activity_lvl == "sedentary":
        print("You need to eat " + str(maintain["sedentary"]) + " calories a day to
maintain your current weight")
    if user_activity_lvl == "light":
        print("You need to eat " + str(maintain["lite"]) + " calories a day to
maintain your current weight")
    if user_activity_lvl == "moderate":
        print("You need to eat " + str(maintain["moderate"]) + " calories a day to
maintain your current weight")
    if user_activity_lvl == "active":
        print("You need to eat " + str(maintain["active"]) + " calories a day to
maintain your current weight")

# ask user sex, rule out incorrect options
def sex():
    sexes = ["male","female","M","F","f","m","Male","Female"]
    while True:
        sex = str(input("Do you identify as male or female? "))
        while sex not in sexes:
            sex = str(input("Please enter either 'male' or 'female' "))
        else:
            return sex
            break

#ask user weight in kg
def get_weight():
    weight_kg = float(input("Enter your weight in kg: "))
```

```
    while weight_kg <= 0:
        weight_kg = float(input("Invalid input. Please enter your weight in kg: "))
    else:
        return weight_kg

#ask user height in m
def get_height():
    height_m = float(input("Enter your height in m: "))
    while height_m <= 0:
        height_m = float(input("Invalid input. Please enter your height in m: "))
    else:
        return height_m

#ask user age in yrs
def get_age():
    age_yrs = int(input("Enter your age in years: "))
    while age_yrs <= 0:
        age_yrs = int(input("Invalid Input. Please enter your age in years: "))
    else:
        return age_yrs

#bmi calculations for male or female
def calculate_bmi(gender, weight, height, age):
    male = ["male", "M" , "m", "Male"]
    female = ["female", "F", "f", "Female"]
    if gender == female:
        women = weight/(height*height)
        return int(women)
    else:
        men = weight/(height*height)
        return int(men)

#get user weekly activity levels
def get_user_activity():
    activity_lvl = ["sedentary", "lite", "moderate", "active"]
    while True:
        user_lvl = str(input("\nWhat is your activity level?\n\nSedentary is little
to no exercise.\nLightly active is 1 - 3 days/week.\nModerately active is 3 - 5
days/week.\nVery active is 6 - 7 days/week.\n\nPlease enter: 'sedentary', 'light',
'moderate',  or 'active' "))
        while user_lvl not in activity_lvl:
            user_lvl = str(input( "Invalid input. Please enter: 'sedentary',
'lite', 'moderate',  or 'active' "))
        else:
            return user_lvl
            break

#pull resting bmi & multiply it for sedentary lvls
def get_sedentary(resting_bmi):
    sedentary = resting_bmi * 120
```

```
    return sedentary

def get_lite_activity(resting_bmi):
    light = resting_bmi * 137.5
    return light

def get_moderate_activity(resting_bmi):
    moderate = resting_bmi * 155.00
    return moderate

def get_very_active(resting_bmi):
    active = resting_bmi * 172.5
    return active


if __name__ == '__main__':
    main()
```

+*Out[15]:*+
```
Calculate your Body Mass Index (BMI)!
Find out how many daily calories you need to maintain your current body weight.

Do you identify as male or female? male
Enter your weight in kg: 55
Enter your height in m: 1.72
Enter your age in years: 19

What is your activity level?

Sedentary is little to no exercise.
Lightly active is 1 - 3 days/week.
Moderately active is 3 - 5 days/week.
Very active is 6 - 7 days/week.

Please enter: 'sedentary', 'light', 'moderate',  or 'active' active
You need to eat 3105.0 calories a day to maintain your current weight
```

+*In[16]:*+
[source, ipython3]
```
def main():
    welcome()
    gender = sex()
    weight = get_weight()
    height = get_height()
```

```
    age = get_age()
    resting_bmr = calculate_bmr(gender, weight, height, age) #calcluates resting
bmr
    final_calculation(resting_bmr)

def welcome():
    print("Calculate your Basal Metabolic Rate (BMR)!\nFind out how many daily
calories you need to maintain your current body weight.\n")

#calculate total daily calories based on bmr and and activity level
def final_calculation(resting_bmr):
    user_activity_lvl = get_user_activity()#ask for user activity level
    maintain = {"sedentary" : get_sedentary(resting_bmr) , "light" :
get_light_activity(resting_bmr), "moderate" : get_moderate_activity(resting_bmr),
"active" : get_very_active(resting_bmr)}
    if user_activity_lvl == "sedentary":
        print("You need to eat " + str(maintain["sedentary"]) + " calories a day to
maintain your current weight")
    if user_activity_lvl == "light":
        print("You need to eat " + str(maintain["light"]) + " calories a day to
maintain your current weight")
    if user_activity_lvl == "moderate":
        print("You need to eat " + str(maintain["moderate"]) + " calories a day to
maintain your current weight")
    if user_activity_lvl == "active":
        print("You need to eat " + str(maintain["active"]) + " calories a day to
maintain your current weight")

# ask user sex, rule out incorrect options
def sex():
    sexes = ["male","female","M","F","f","m","Male","Female"]
    while True:
        sex = str(input("Do you identify as male or female? "))
        while sex not in sexes:
            sex = str(input("Please enter either 'male' or 'female' "))
        else:
            return sex
            break

#ask user weight in pounds
def get_weight():
    weight_lbs = float(input("Enter your weight in pounds: "))
    while weight_lbs <= 0:
        weight_lbs = float(input("Invalid input. Please enter your weight in
pounds: "))
    else:
        return weight_lbs

#ask user height in inches
def get_height():
```

```
    height_inch = float(input("Enter your height in inches: "))
    while height_inch <= 0:
        height_inch = float(input("Invalid input. Please enter your height in
inches: "))
    else:
        return height_inch

#ask user age in yrs
def get_age():
    age_yrs = int(input("Enter your age in years: "))
    while age_yrs <= 0:
        age_yrs = int(input("Invalid Input. Please enter your age in years: "))
    else:
        return age_yrs

#bmr calculations for male or female
def calculate_bmr(gender, weight, height, age):
    male = ["male", "M" , "m", "Male"]
    female = ["female", "F", "f", "Female"]
    if gender == female:
        women = 655 + (4.35 * weight) + (4.7 * height) - (4.7 * age)
        return int(women)
    else:
        men = 66 + (6.3 * weight) + (12.9 * height) - (6.8 * age)
        return int(men)

#get user weekly activity levels
def get_user_activity():
    activity_lvl = ["sedentary", "light", "moderate", "active"]
    while True:
        user_lvl = str(input("\nWhat is your activity level?\n\nSedentary is little
to no exercise.\nLightly active is 1 - 3 days/week.\nModerately active is 3 - 5
days/week.\nVery active is 6 - 7 days/week.\n\nPlease enter: 'sedentary', 'light',
'moderate',  or 'active' "))
        while user_lvl not in activity_lvl:
            user_lvl = str(input( "Invalid input. Please enter: 'sedentary',
'light', 'moderate',  or 'active' "))
        else:
            return user_lvl
            break

#pull resting bmr & multiply it for sedentary lvls
def get_sedentary(resting_bmr):
    sedentary = resting_bmr * 1.2
    return sedentary

def get_light_activity(resting_bmr):
    light = resting_bmr * 1.375
    return light
```

```
def get_moderate_activity(resting_bmr):
    moderate = resting_bmr * 1.55
    return moderate

def get_very_active(resting_bmr):
    active = resting_bmr * 1.725
    return active


if __name__ == '__main__':
    main()
```

+*Out[16]:*+

```
Calculate your Basal Metabolic Rate (BMR)!
Find out how many daily calories you need to maintain your current body weight.

Do you identify as male or female? female
Enter your weight in pounds: 130.8
Enter your height in inches: 6.2
Enter your age in years: 19

What is your activity level?

Sedentary is little to no exercise.
Lightly active is 1 - 3 days/week.
Moderately active is 3 - 5 days/week.
Very active is 6 - 7 days/week.

Please enter: 'sedentary', 'light', 'moderate',  or 'active' moderate
You need to eat 1302.0 calories a day to maintain your current weight
```

+*In[ ]:*+

[source, ipython3]
