1- BMI Calculator

A BMI Calculator has been implemented using python, as we don't have the height field in our current database to be able to calculate the BMI, so on the model that I've implemented it would ask the user to input their height and weight and then it would calculate the BMI.

Summary of BMI and the benefits and limitations:

BMI(Body Mass Index) is one of the most common ways of grouping people by their weight.

A History of BMI:

BMI was first developed in the mid-1800s by a polymath called Adolf Quetelet. The purpose was to measure people's weight in relation to their height, by dividing their weight in KG by their height in meters squared. Scientists have created BMI categories to group people according to how far their weigh is from the norm for their height.

The categories of BMI:

- *BMI less than 16, classified as "Severely Underweight",*
- *BMI 16 to <18.5, classified as "Underweight" range.*
- *BMI 18.5 to <25, classified as "Healthy weight" range.*
- *BMI 25.0 to <30, classified as "Overweight" range.*
- *BMI 30.0 or higher, falls within the "Obesity" range.*

Benefits:

- *Easy to measure,*
- *No expensive equipment needed,*
- *It is quick and cheap to work out,*

Limitations:

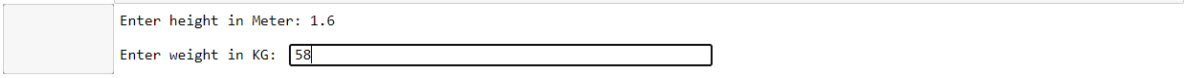
- *BMI is not a way of diagnosing body fat,*
- *Categorizing people based on their BMI could lead to weight stigma,*
- *BMI is not an appropriate measure for children*

The following code will receive "Hight" and "Weight" from user to calculate and round the BMI to 2 decimal places and shows the user's BMI category using a function called "BMI". Also this code will check the entered values for "Hight" and "Weight" and if it's not valid, it will respond "Incorrect Data"

In [77]:
```
h = float(input('Enter height in Meter: '))
if (h >= 1.0 and h <= 2.5):
    height = h
else:
    raise Exception("Incorrect Data, Please enter your height in Meter ")


w = float(input('Enter weight in KG: '))
if (w >= 10 and h <= 1000):
    weight = w
else:
    print("Incorrect Data, Please enter your weight in KG ")


def BMI(height, weight):   #BMI Fuction to calculate BMI
    bmi = round(weight/(height**2), 2)

    if (bmi < 16):
        return 'Severely Underweight', bmi

    elif (bmi >= 16 and bmi <18.5):
        return 'Underweight', bmi

    elif (bmi >= 18.5 and bmi <25):
        return 'Healthy', bmi

    elif (bmi >= 25 and bmi <30):
        return 'Overweight', bmi

    elif (bmi >= 30):
        return 'Obese', bmi

calculation, bmi = BMI(height, weight)
print('Your BMI is: {} which is {}, the normal BMI is between 18.5 to 25'.format(bmi, calculation))
```

```
Enter height in Meter:  1.70
Enter weight in KG:  60

Your BMI is: 20.76 which is Healthy, the normal BMI is between 18.5 to 25
```

After you run the code, it will ask for height and weight



And then it will calculate and return the BMI,