REPORT FOR FITNESS CALCULATOR

As a project work for course

PYTHON PROGRAMMING (INT213)

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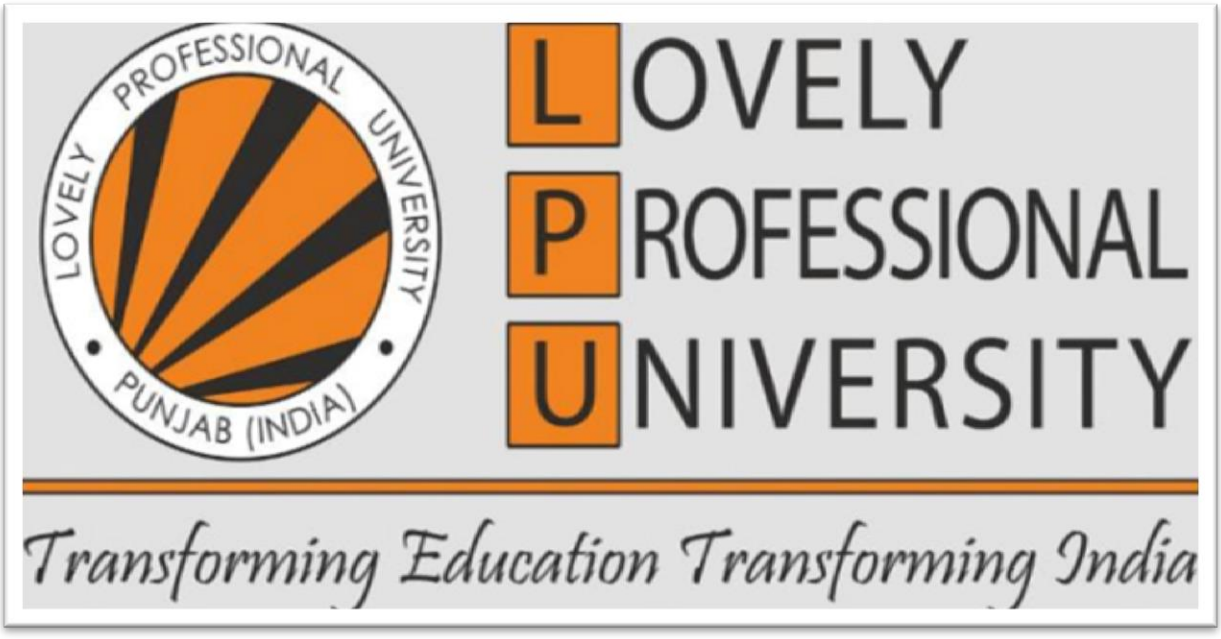


Abstract:

The body mass index (BMI) is that the metric currently in use for outlining anthropometric height and weight characteristics in adults and for classifying them into groups. The common interpretation is that it represents an index of an individual's fatness. It is also widely used as a

risk factor for the event of or the prevalence of several health issues. The Body Mass Index (BMI) Calculator here is a python programming that eliminates the need for more manual hours to calculate and locate the BMI for a specific person with a single click. The major goal is to keep one's health in good shape. The BMI Calculator provides us with all of the necessary information, such as health recommendations and advice on what to eat and what to avoid, When we enter the height and weight we get all the information i.e. are we overweight or underweight etc.

Acknowledgment:

We would like to express our special thanks of gratitude to our Professor Ankita Wadhawan ma'am who gave us a great an opportunity to do this project and also provided us valuable guidance.

Introduction:

The BMI Calculator is a python programming coding program which helps to calculate malnutrition in child and adults. BMI is calculated the same way for both adults and children. The calculation is based on the following formula: weight (kg) / [height (m)] ^{2}. BMI is less time consuming; lots of effort and energy is saved and wastage of paper doesn't occur.

- **SCOPE OF THE SYSTEM**

The main scope is to maintain the health. The BMI Calculator gives us all the information i.e. it gives suggestion for our health and tells us what should we eat and what to avoid. When we enter the height and weight we get all the information i.e. are we overweight or underweight etc. We get the following diet chart based on our calculated class.

- **BMI Calculator in Python**

The BMI Calculator in Python is developed in python programming language and it is a desktop application. This system is created using tkinter and graphical user interface. The BMI Calculator in Python is free to download the open source code. The task is for the client advantageous, for checking your BMI. With the BMI esteem, you can check whether you have a solid weight or not. The undertaking record contains python content (BMI.py).

Discussing the highlights of this BMI Calculator framework, this python application is intended to figure the BMI estimation of client by entering the estimation of their weight and tallness. You can simply need to choose the weight and enter the stature you need to include in estimations and snap the catch for the outcome. It is fit for dealing with a wide range of exemptions.

- **Understanding the Body Mass Index (BMI)**

BMI, short for Body Mass Index, is a measure of relative weight based on the mass and height of an individual. We generally use the Body Mass Index in order to categorize people on the basis of their height and weight. These categories are underweight, healthy, overweight, and

even obesity. Moreover, it is also adopted by various countries in order to promote healthy eating.

We can consider Body Mass Index (BMI) as a substitute for direct measurements of body fat. Besides, BMI is a low-cost and easy-to-perform method of screening for weight classes that may cause health-related problems.

- ## Understanding the working of BMI Calculator

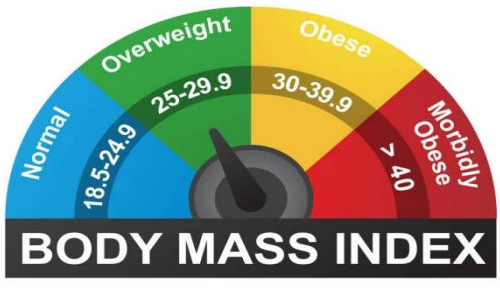
A BMI Calculator accepts the weight and height of an individual and calculates the Body Mass Index (BMI) of that person. For Example, if the height and weight of a person are 155 cm and 57 kg. The BMI of that person will be 23.73 (approx.), which signifies that the person is healthy. Body Mass Index (BMI) is a measure of body fat on the basis of height and weight, respectively.

On the basis of the BMI of an individual, the calculator returns a statement stating the overall health of the person. The following table shows how:-

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Pre Obesity
30 - 35	Obesity Class 1
35 - 40	Obesity Class 2
>40	Obesity Class 3

- ## BASIC FORMULA FOR BMI

We will use the following formula in order to calculate BMI.



$$BMI = \frac{weight\ (kg)}{\{height\ (m)\}^2}$$

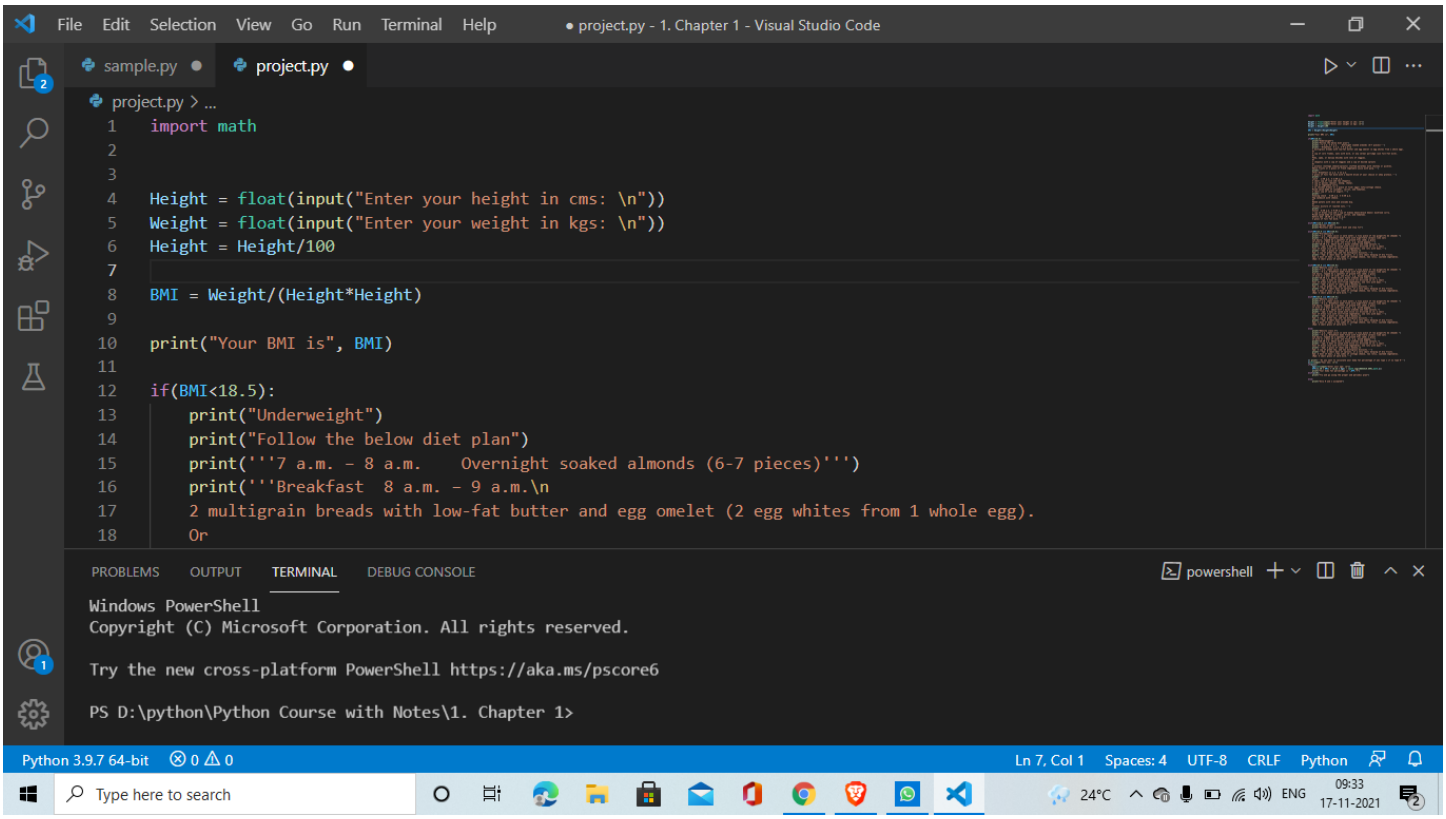
Here,

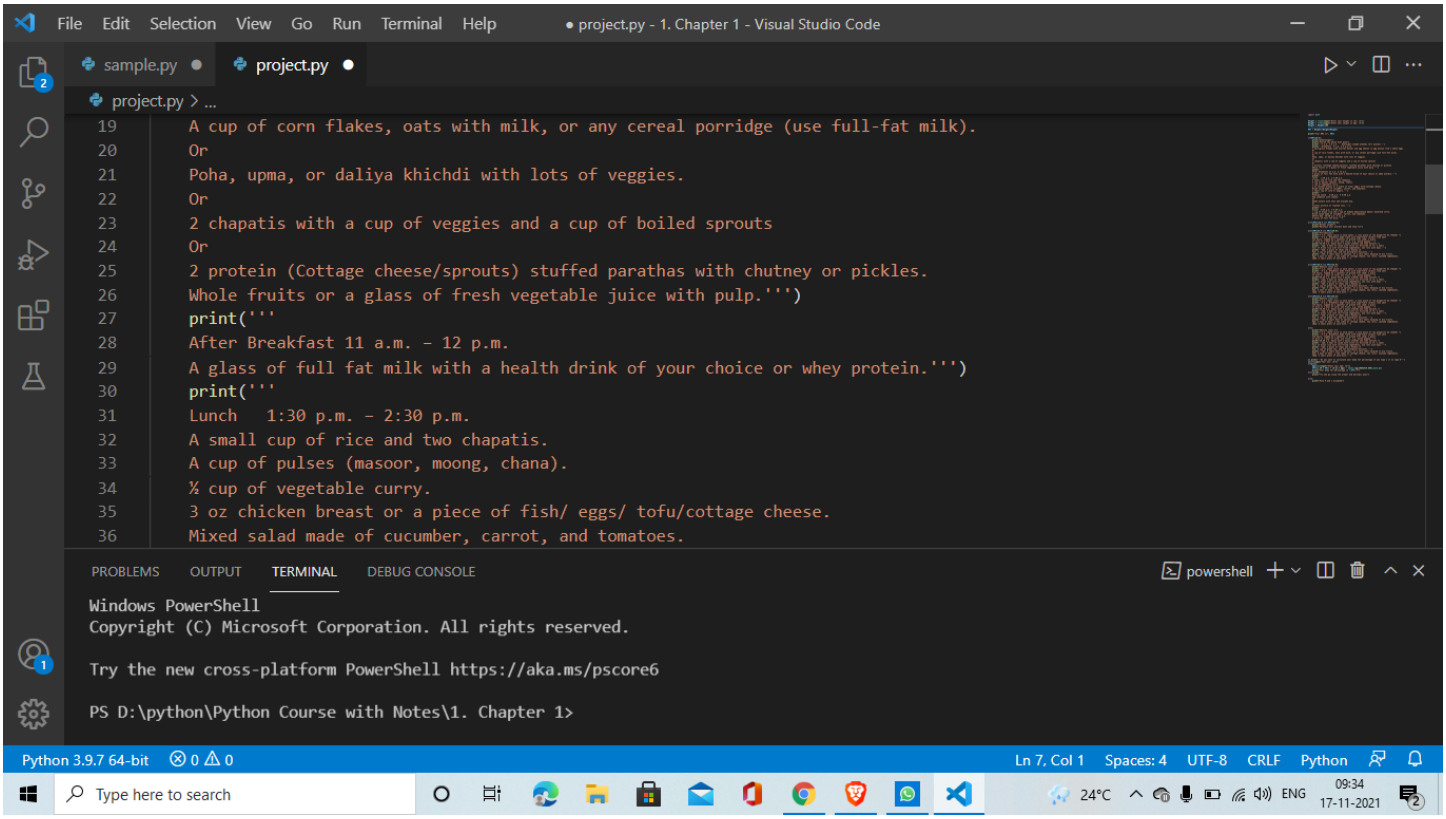
We have taken:-

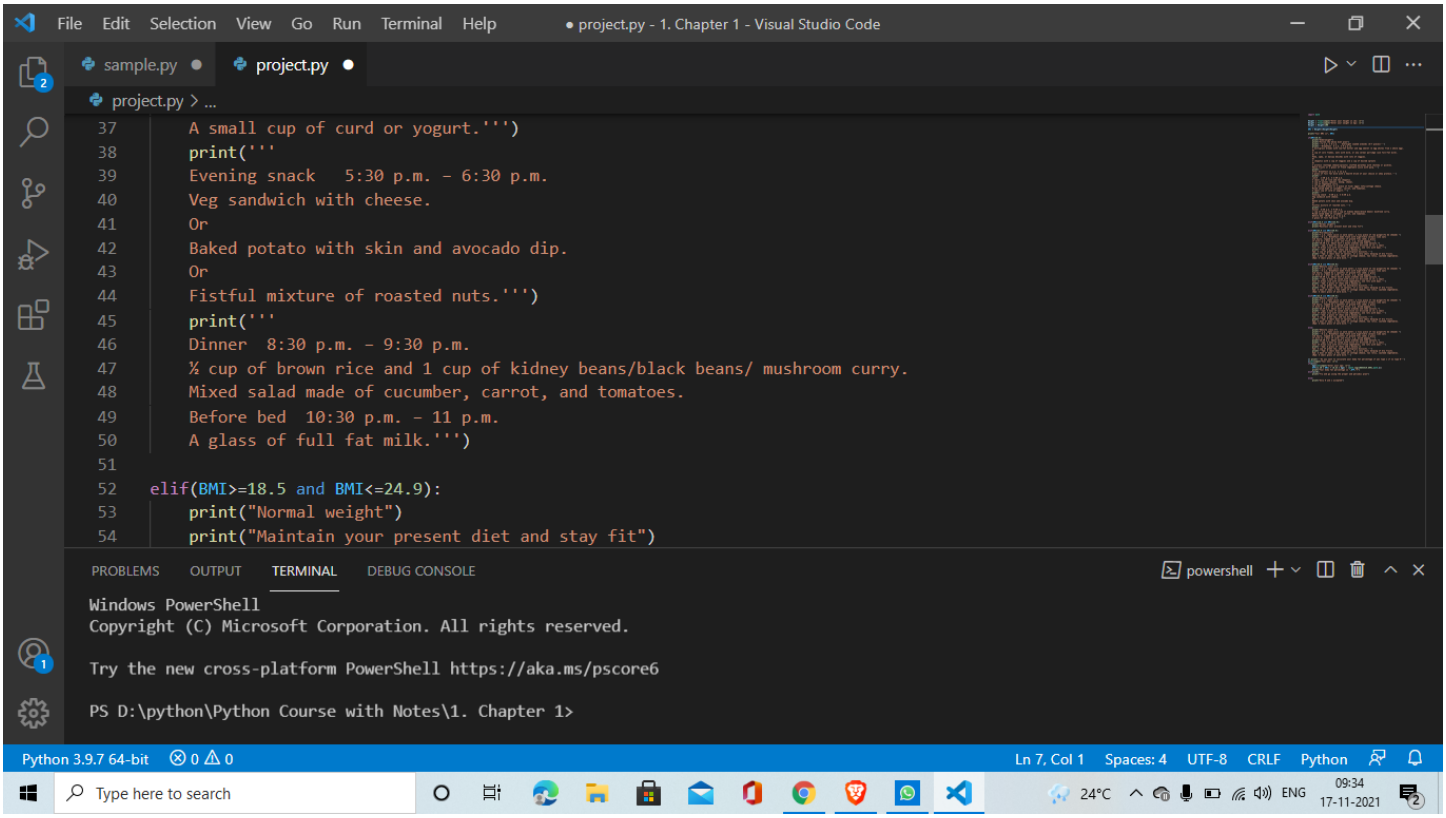
Height in centimeters (cm)

Weight in kilograms (kg) {1meter (m) = 100 centimeters (cm)}

Screenshots of Source Code:



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A small cup of curd or yogurt.''')
print('''
Evening snack 5:30 p.m. – 6:30 p.m.
Veg sandwich with cheese.
Or
Baked potato with skin and avocado dip.
Or
Fistful mixture of roasted nuts.''')
print('''
Dinner 8:30 p.m. – 9:30 p.m.
¾ cup of brown rice and 1 cup of kidney beans/black beans/ mushroom curry.
Mixed salad made of cucumber, carrot, and tomatoes.
Before bed 10:30 p.m. – 11 p.m.
A glass of full fat milk.''')
elif(BMI>=18.5 and BMI<=24.9):
print("Normal weight")
print("Maintain your present diet and stay fit")
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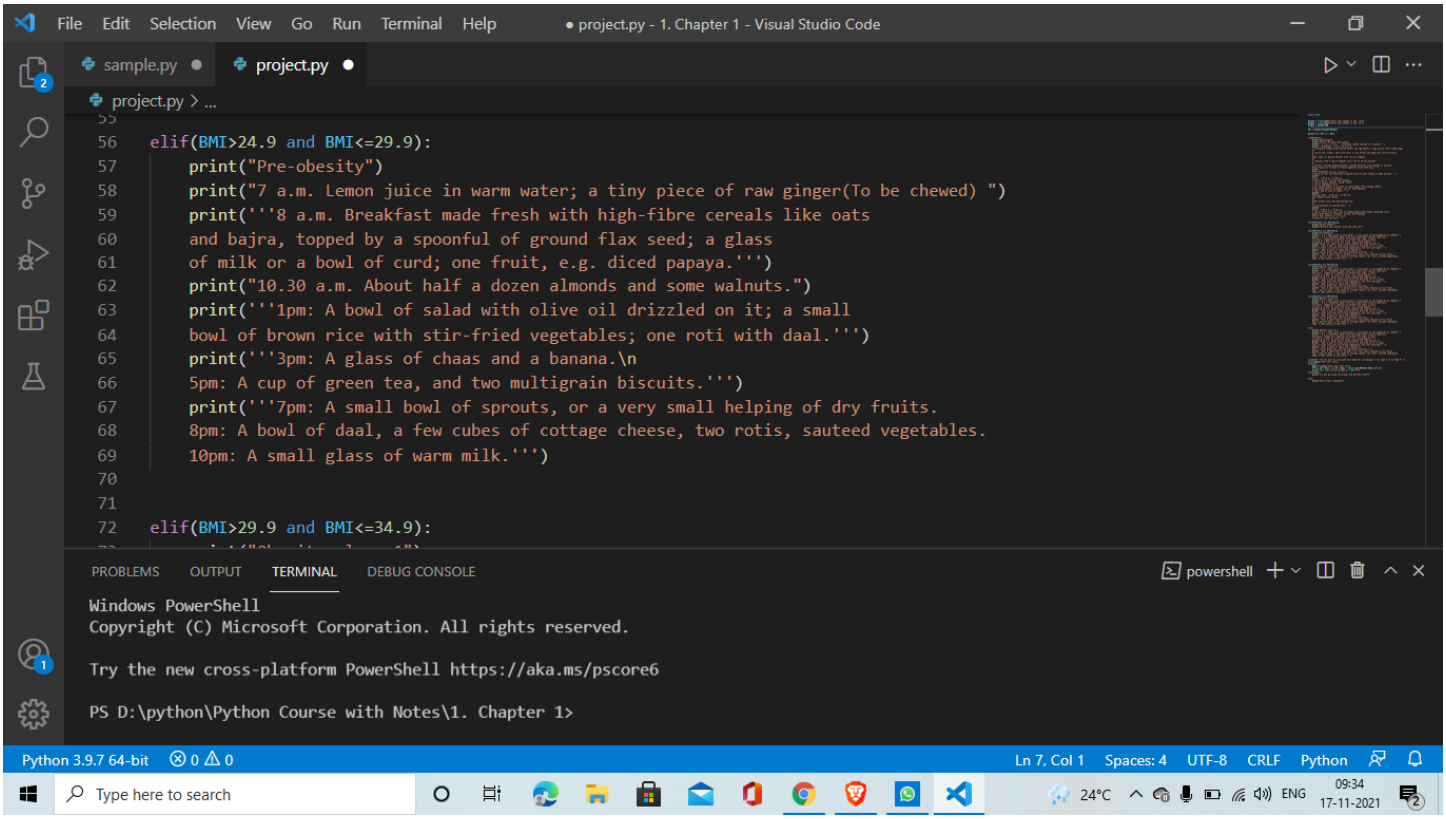
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elif(BMI>24.9 and BMI<=29.9):
print("Pre-obesity")
print("7 a.m. Lemon juice in warm water; a tiny piece of raw ginger(To be chewed) ")
print('''8 a.m. Breakfast made fresh with high-fibre cereals like oats
and bajra, topped by a spoonful of ground flax seed; a glass
of milk or a bowl of curd; one fruit, e.g. diced papaya.''')
print("10.30 a.m. About half a dozen almonds and some walnuts.")
print('''1pm: A bowl of salad with olive oil drizzled on it; a small
bowl of brown rice with stir-fried vegetables; one roti with daal.''')
print('''3pm: A glass of chaas and a banana.\n
5pm: A cup of green tea, and two multigrain biscuits.''')
print('''7pm: A small bowl of sprouts, or a very small helping of dry fruits.
8pm: A bowl of daal, a few cubes of cottage cheese, two rotis, sauteed vegetables.
10pm: A small glass of warm milk.''')
elif(BMI>29.9 and BMI<=34.9):
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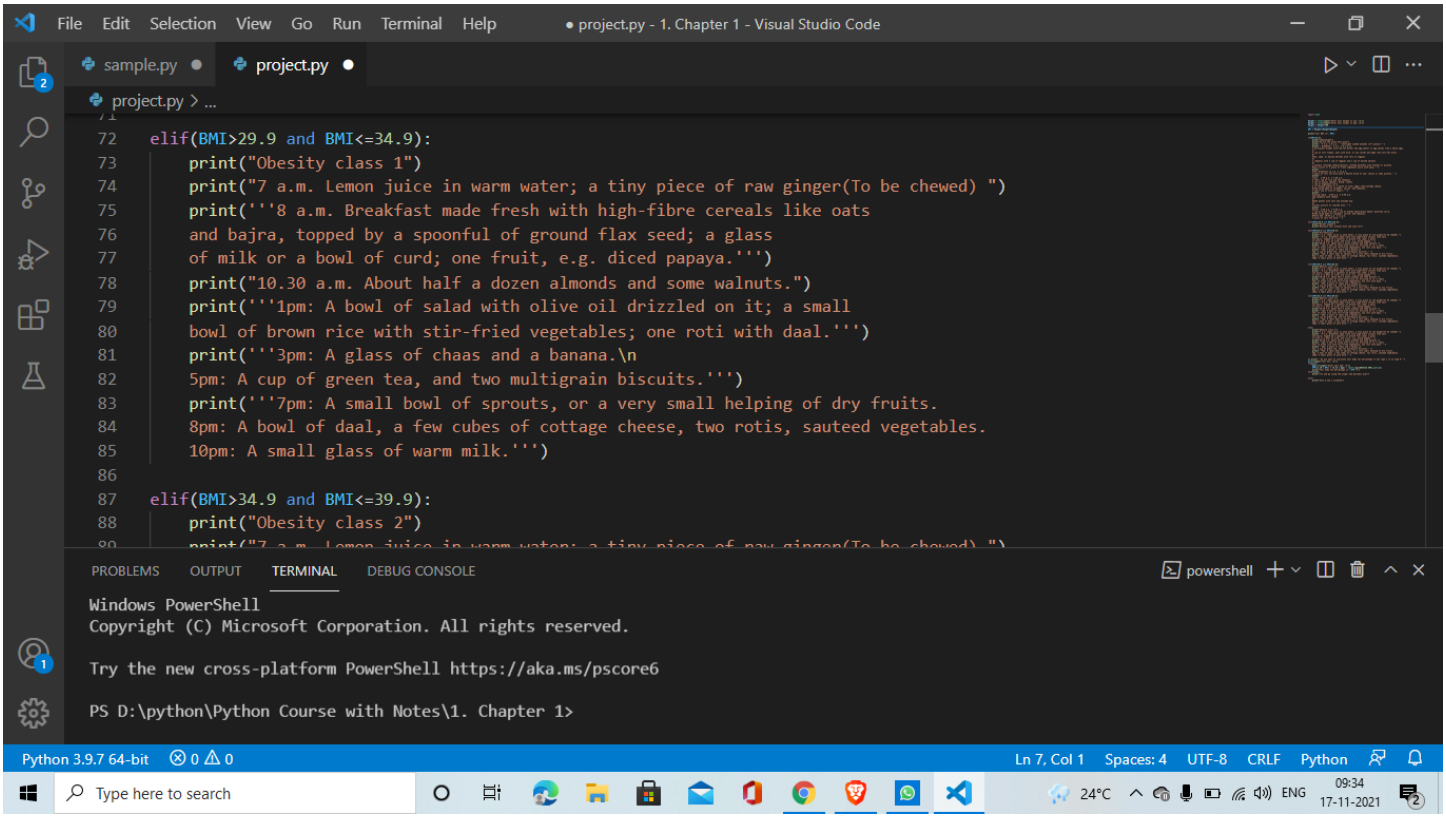
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72 elif(BMI>29.9 and BMI<=34.9):
73 print("Obesity class 1")
74 print("7 a.m. Lemon juice in warm water; a tiny piece of raw ginger(To be chewed) ")
75 print('''8 a.m. Breakfast made fresh with high-fibre cereals like oats
76 and bajra, topped by a spoonful of ground flax seed; a glass
77 of milk or a bowl of curd; one fruit, e.g. diced papaya.''')
78 print("10.30 a.m. About half a dozen almonds and some walnuts.")
79 print('''1pm: A bowl of salad with olive oil drizzled on it; a small
80 bowl of brown rice with stir-fried vegetables; one roti with daal.''')
81 print('''3pm: A glass of chaas and a banana.\n
82 5pm: A cup of green tea, and two multigrain biscuits.''')
83 print('''7pm: A small bowl of sprouts, or a very small helping of dry fruits.
84 8pm: A bowl of daal, a few cubes of cottage cheese, two rotis, sauteed vegetables.
85 10pm: A small glass of warm milk.''')
86
87 elif(BMI>34.9 and BMI<=39.9):
88 print("Obesity class 2")
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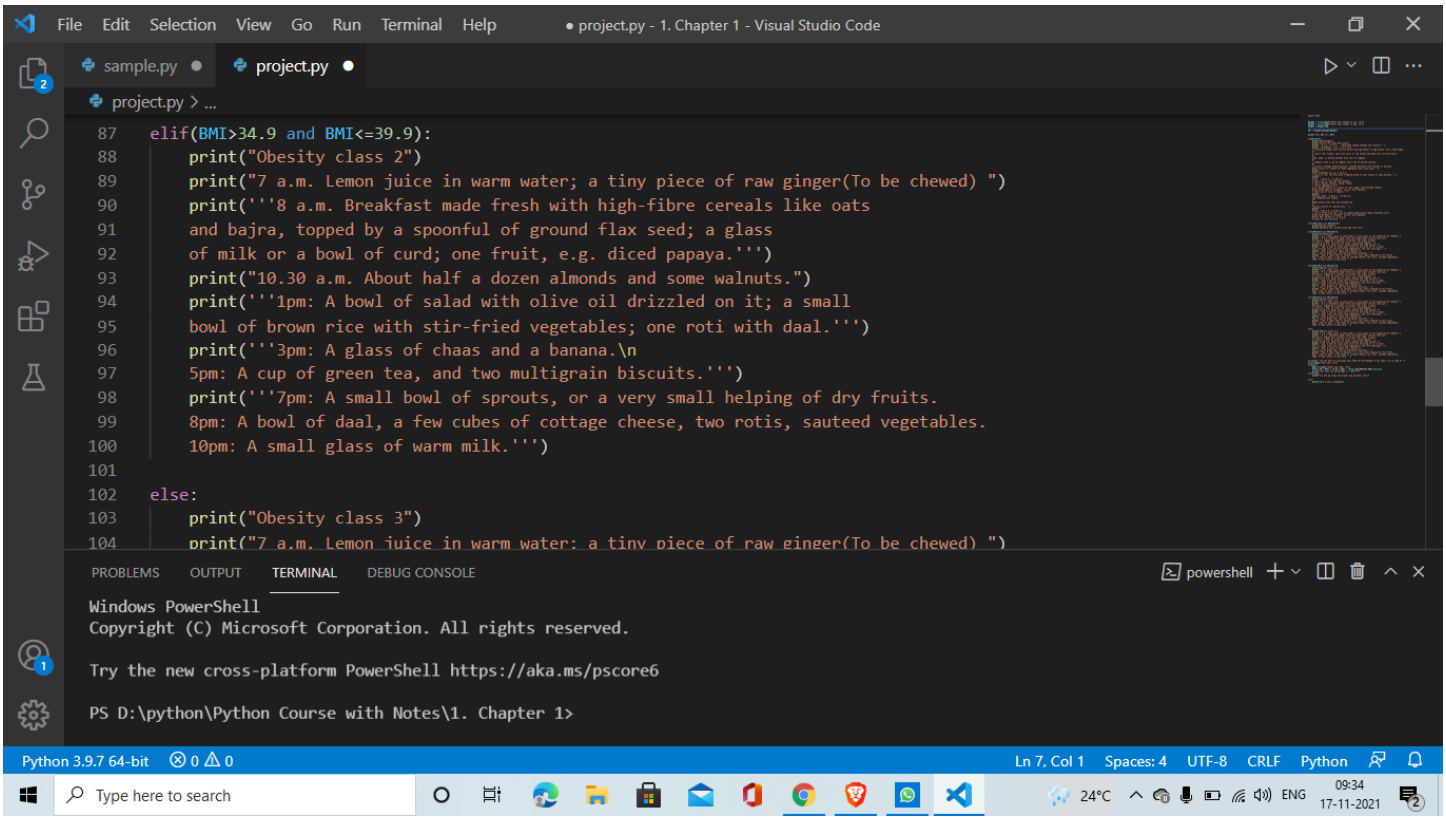
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87 elif(BMI>34.9 and BMI<=39.9):
88 print("Obesity class 2")
89 print("7 a.m. Lemon juice in warm water; a tiny piece of raw ginger(To be chewed) ")
90 print('''8 a.m. Breakfast made fresh with high-fibre cereals like oats
91 and bajra, topped by a spoonful of ground flax seed; a glass
92 of milk or a bowl of curd; one fruit, e.g. diced papaya.''')
93 print("10.30 a.m. About half a dozen almonds and some walnuts.")
94 print('''1pm: A bowl of salad with olive oil drizzled on it; a small
95 bowl of brown rice with stir-fried vegetables; one roti with daal.''')
96 print('''3pm: A glass of chaas and a banana.\n
97 5pm: A cup of green tea, and two multigrain biscuits.''')
98 print('''7pm: A small bowl of sprouts, or a very small helping of dry fruits.
99 8pm: A bowl of daal, a few cubes of cottage cheese, two rotis, sauteed vegetables.
100 10pm: A small glass of warm milk.''')
101
102 else:
103 print("Obesity class 3")
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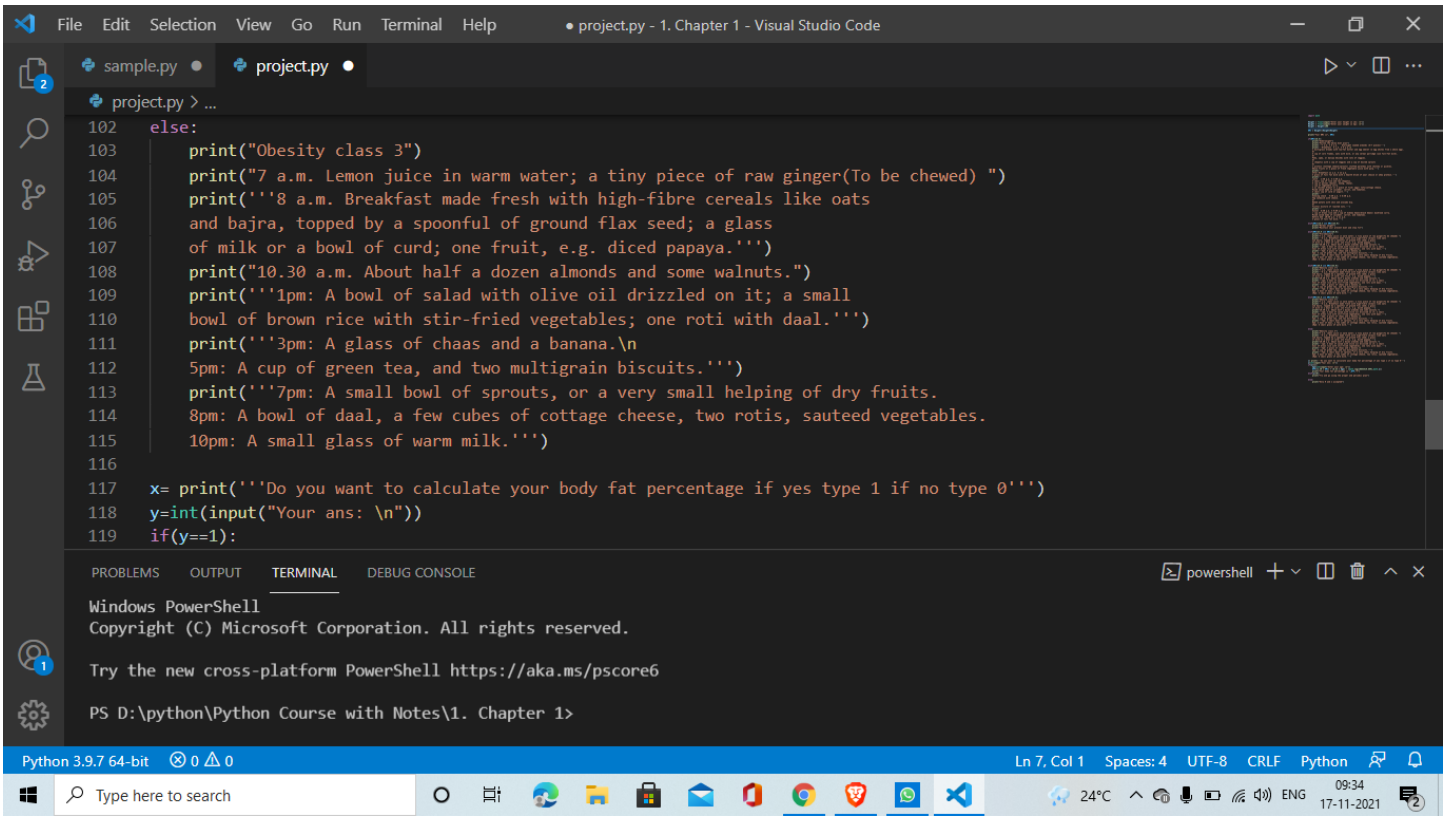
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102 else:
103 print("Obesity class 3")
104 print("7 a.m. Lemon juice in warm water; a tiny piece of raw ginger(To be chewed) ")
105 print('''8 a.m. Breakfast made fresh with high-fibre cereals like oats
106 and bajra, topped by a spoonful of ground flax seed; a glass
107 of milk or a bowl of curd; one fruit, e.g. diced papaya.''')
108 print("10.30 a.m. About half a dozen almonds and some walnuts.")
109 print('''1pm: A bowl of salad with olive oil drizzled on it; a small
110 bowl of brown rice with stir-fried vegetables; one roti with daal.''')
111 print('''3pm: A glass of chaas and a banana.\n
112 5pm: A cup of green tea, and two multigrain biscuits.''')
113 print('''7pm: A small bowl of sprouts, or a very small helping of dry fruits.
114 8pm: A bowl of daal, a few cubes of cottage cheese, two rotis, sauteed vegetables.
115 10pm: A small glass of warm milk.''')
116
117 x= print('''Do you want to calculate your body fat percentage if yes type 1 if no type 0''')
118 y=int(input("Your ans: \n"))
119 if(y==1):
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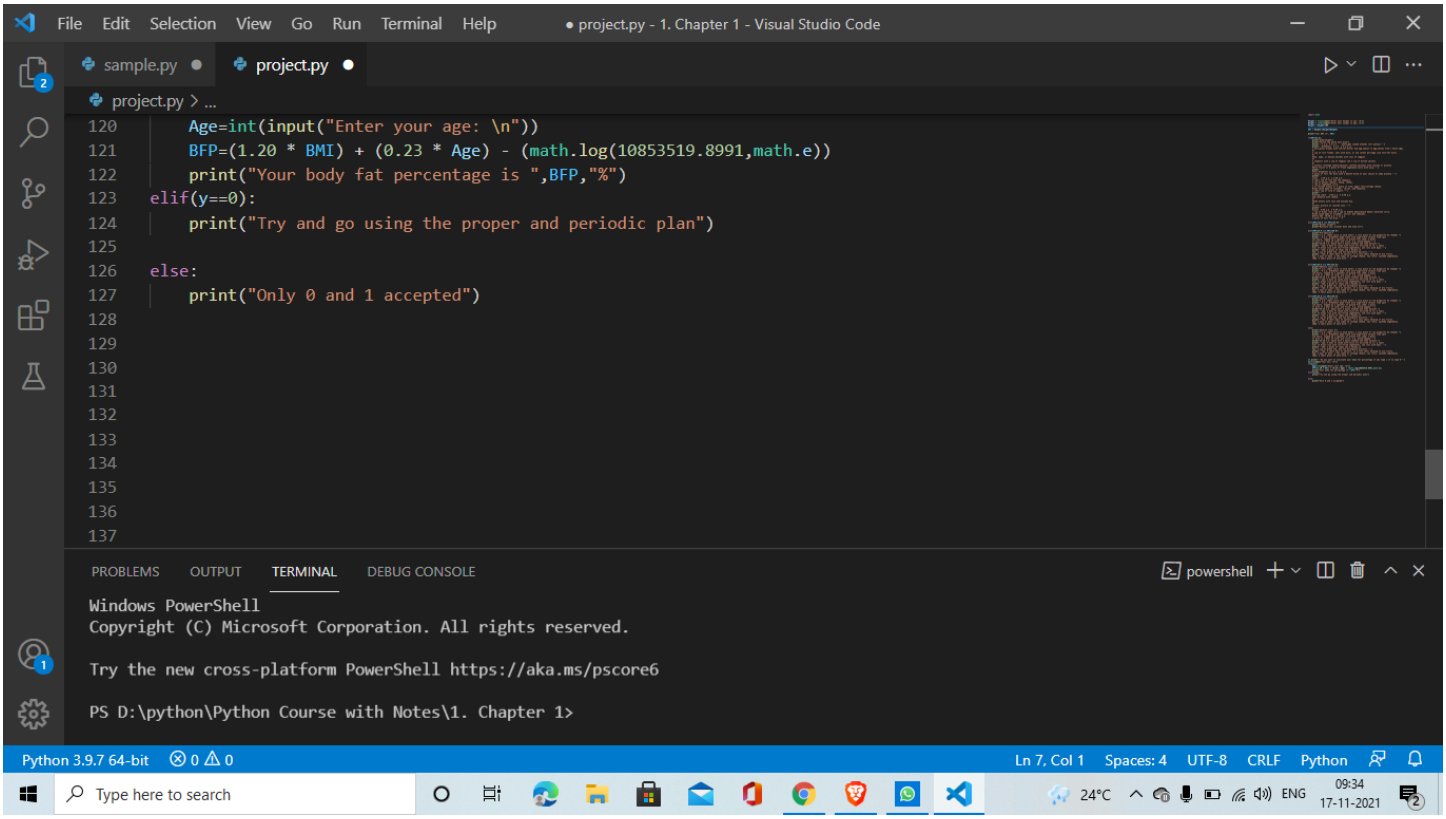
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120 Age=int(input("Enter your age: \n"))
121 BFP=(1.20 * BMI) + (0.23 * Age) - (math.log(10853519.8991,math.e))
122 print("Your body fat percentage is ",BFP,"%")
123 elif(y==0):
124 print("Try and go using the proper and periodic plan")
125
126 else:
127 print("Only 0 and 1 accepted")
128
129
130
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Conclusion:

The BMI Calculator project was created in such a way that future changes are simple to implement. The following conclusions can be drawn from the project's progress. The efficiency of the entire source code is improved and done carefully. It grants authorized users appropriate do’s and don’ts diet plans based on their BMI status. It effectively solves the problem of time complexity. It has never been easier to keep information up to date. The most notable features are diet plan, BMI Status, accurate result, and dependability. If necessary, we can flexibly modify the source code in the future.

Reference:

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Class notes from respective subject lectures

Github Link:

https://github.com/SanskrtiSingh/Fitness-calculator.git

https://github.com/Vertos-python/Fitness-calculator.git