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MOTIVATION OF SELECTED TOPIC:

- The reason behind creating this specific application is to maintain the health . The BMI App 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 . Which will potentially lead to a greater interest in health and fitness .
- A number of doctors use to help judge your risk of illness . It doesn't tell you how much body fat you have . But the BMI Calculator lets you know whether a person has a healthy body weight for their height .
- It would be of great use especially for the students as they hold the majority percentage of the smartphone users in today's time .

Objectives : -

- 1) It combines a person's weight with their height. The results of a BMI measurement can give an idea about whether a person has the correct weight for their height .
- 2) BMI can be a useful screening tool for predicting certain health risks .
- 3) After the calculation of BMI it displays the user Meal Planner for that particular category will be displayed. The Meal Planner contains the suggestions for food to be eaten .

DESIGN AND DESCRIPTION : -

- i. First step for the application is to define a layout letting users to enter weight and height values to calculate the BMI index. We have to print a button(calculate BMI) to launch the BMI calculation and also a TextView to display the result.
- ii. We get the values entered by the user for the weight and the height. The height is entered in centimeter. So, we divide the value entered by 100 . The weight of the user is entered in kilograms. Then, we apply the formula to calculate the BMI :

$$\text{float bmi (kg/m}^2\text{)} = (\text{weightValue (kg)}) / (\text{heightValue (m)})^2$$

- iii. With the BMI value, we can display the result on the user interface. To determine the diagnostic associated to the BMI value, we are going to use the following table :

Category	BMI (kg/m ²)	
	from	to
Very severely underweight		15.0
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	

- iv. The last step is just to display the user Meal Planner for that particular category will be displayed . The Meal Planner contains the suggestions for food to be eaten .

v. Meal Suggestion :

a. If category is very severely underweight (or) severely underweight (or) underweight . The meal planner is as follows : -

- Add healthy calories . You don't need to drastically change your diet .
- Snack away .
- Eat Mini-Meals .
- Bulk Up.

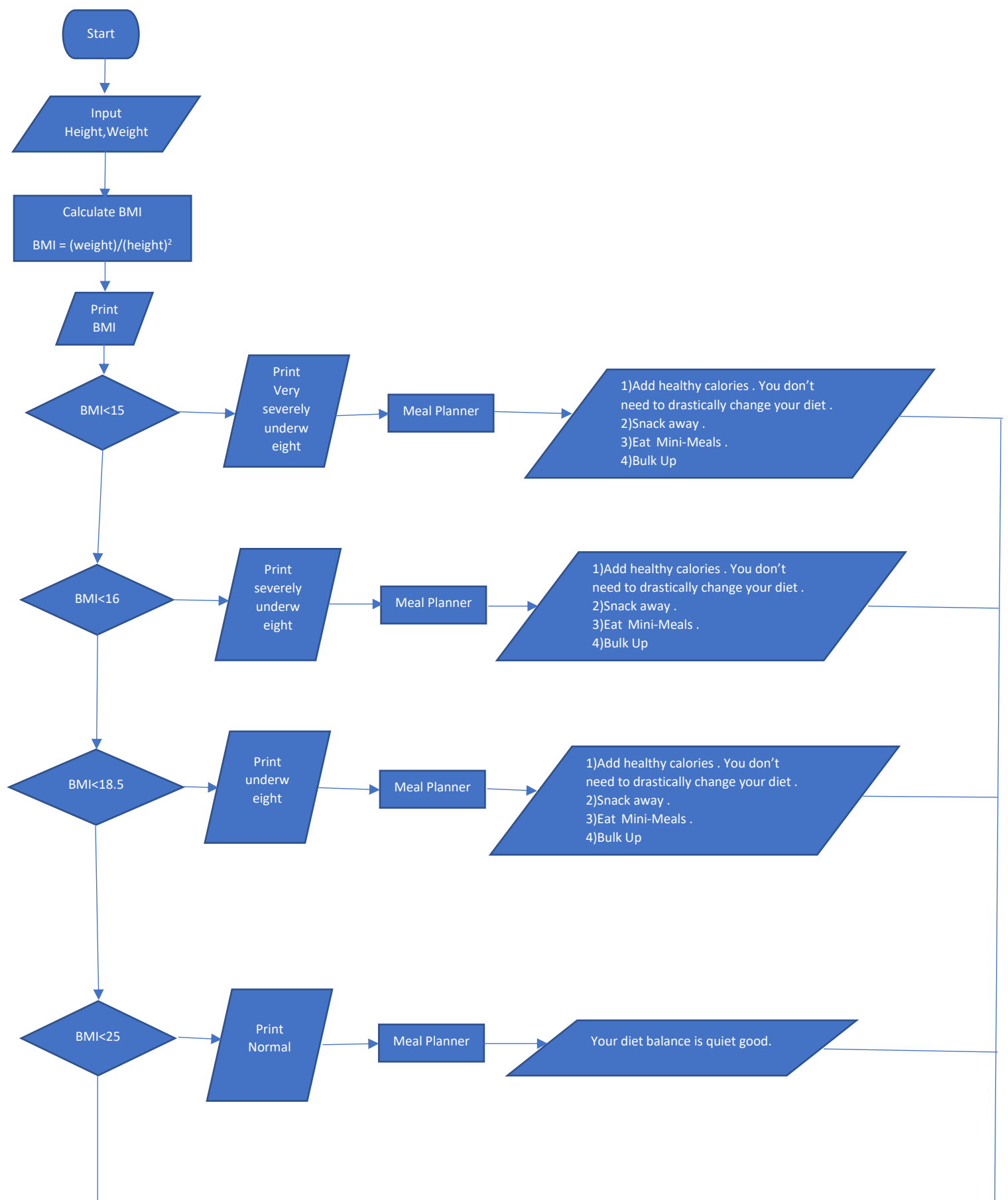
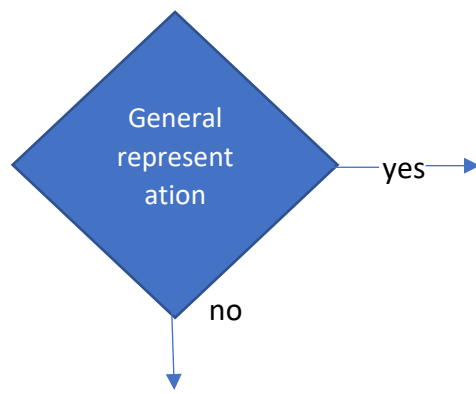
b. If category is normal : -

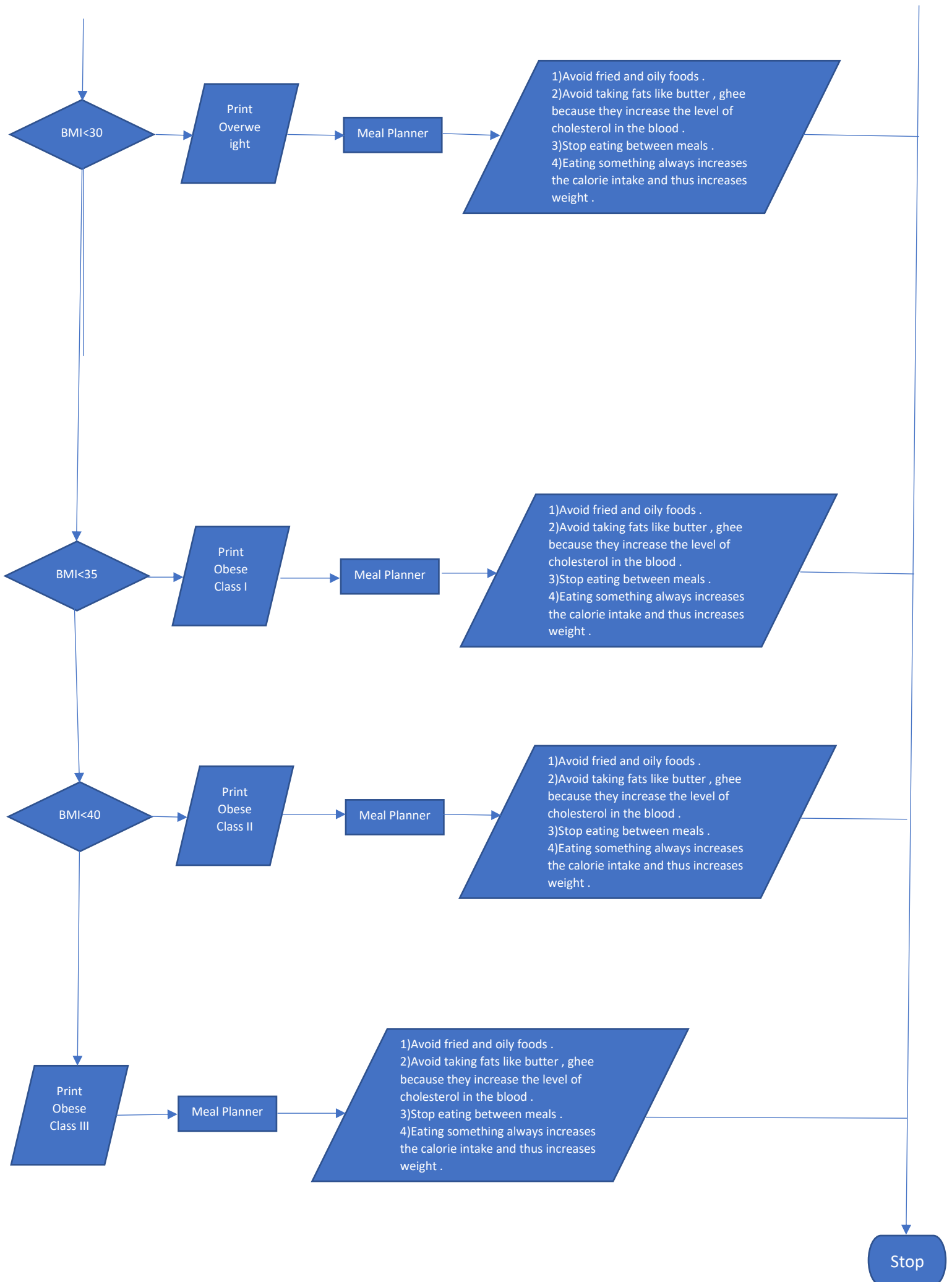
- Your diet balance is quiet good.

c. If category is Overweight (or) Obese class I (or) Obese class II (or) Obese class III : -

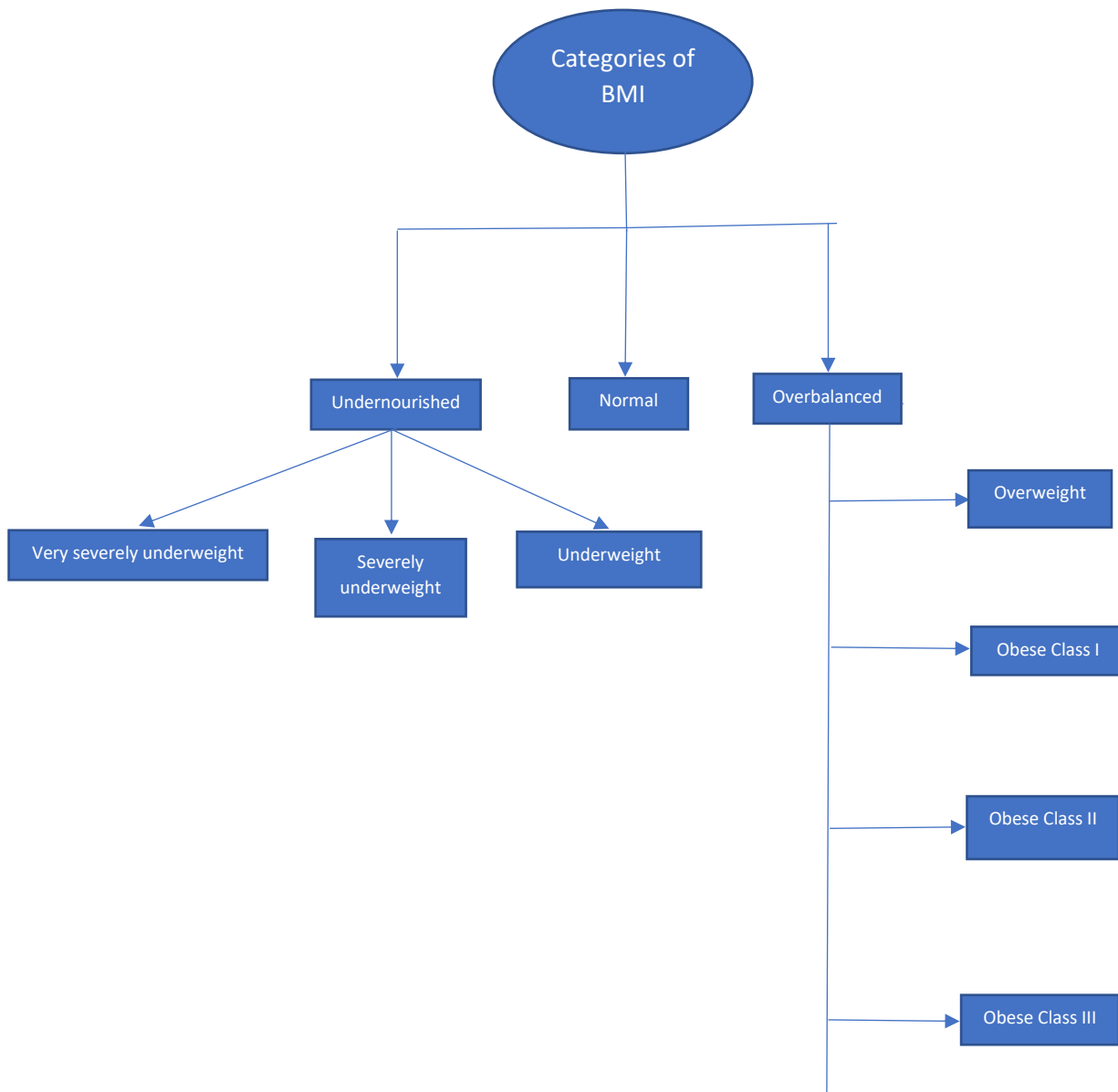
- Avoid fried and oily foods .
- Avoid taking fats like butter , ghee because they increase the level of cholesterol in the blood .
- Stop eating between meals .
- Eating something always increases the calorie intake and thus increases weight .

FLOWCHART :

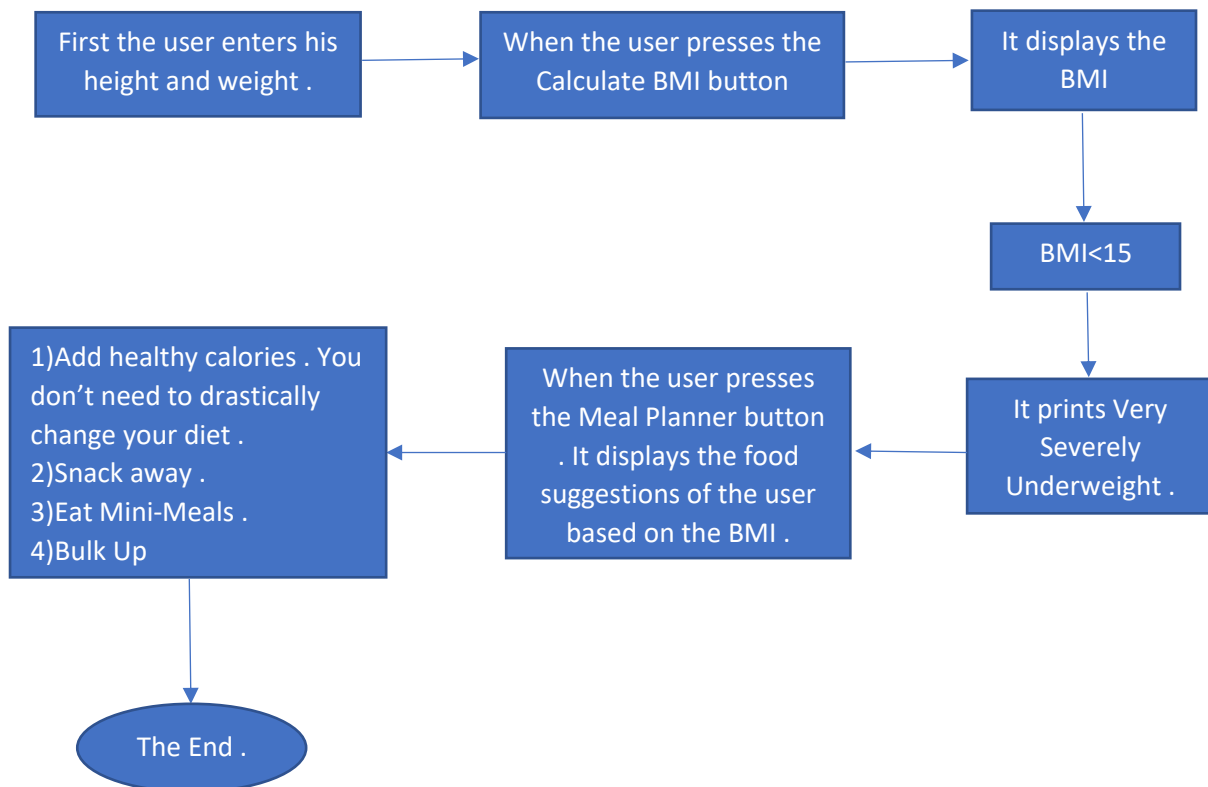




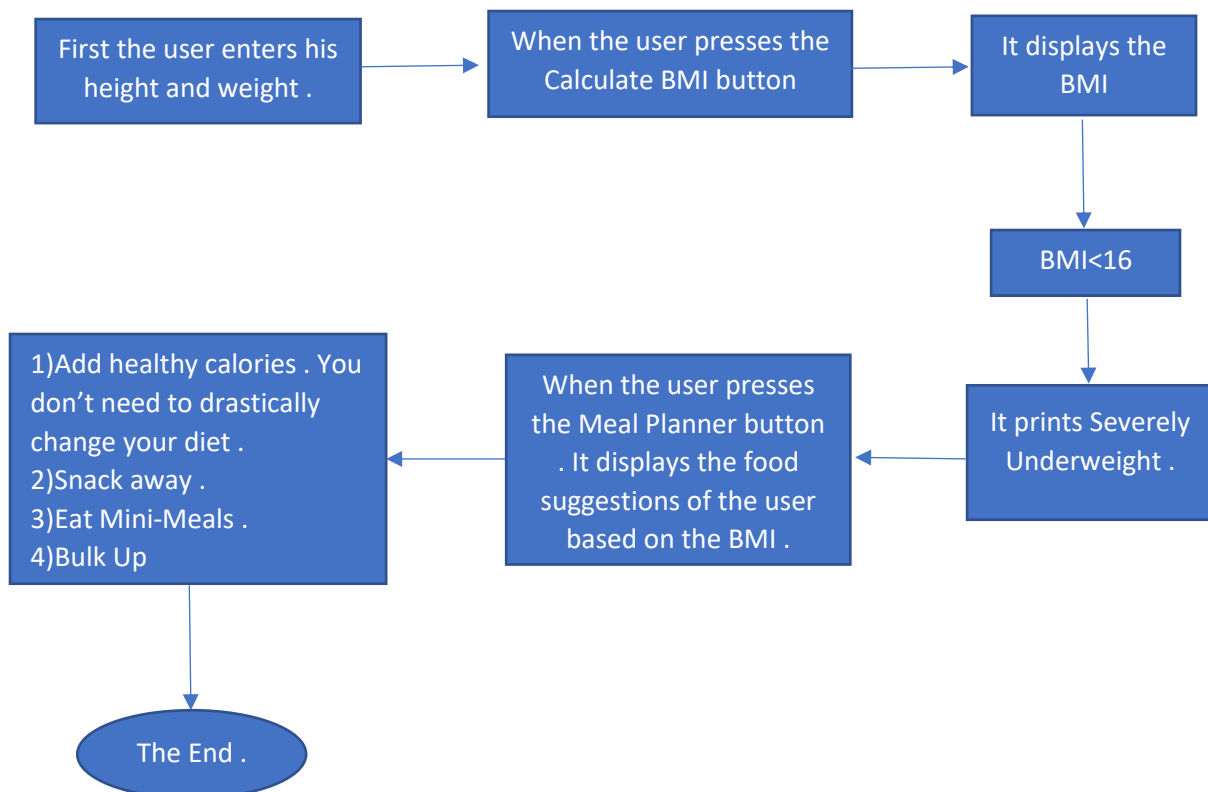
DATA BASE FLOW DIAGRAMS :



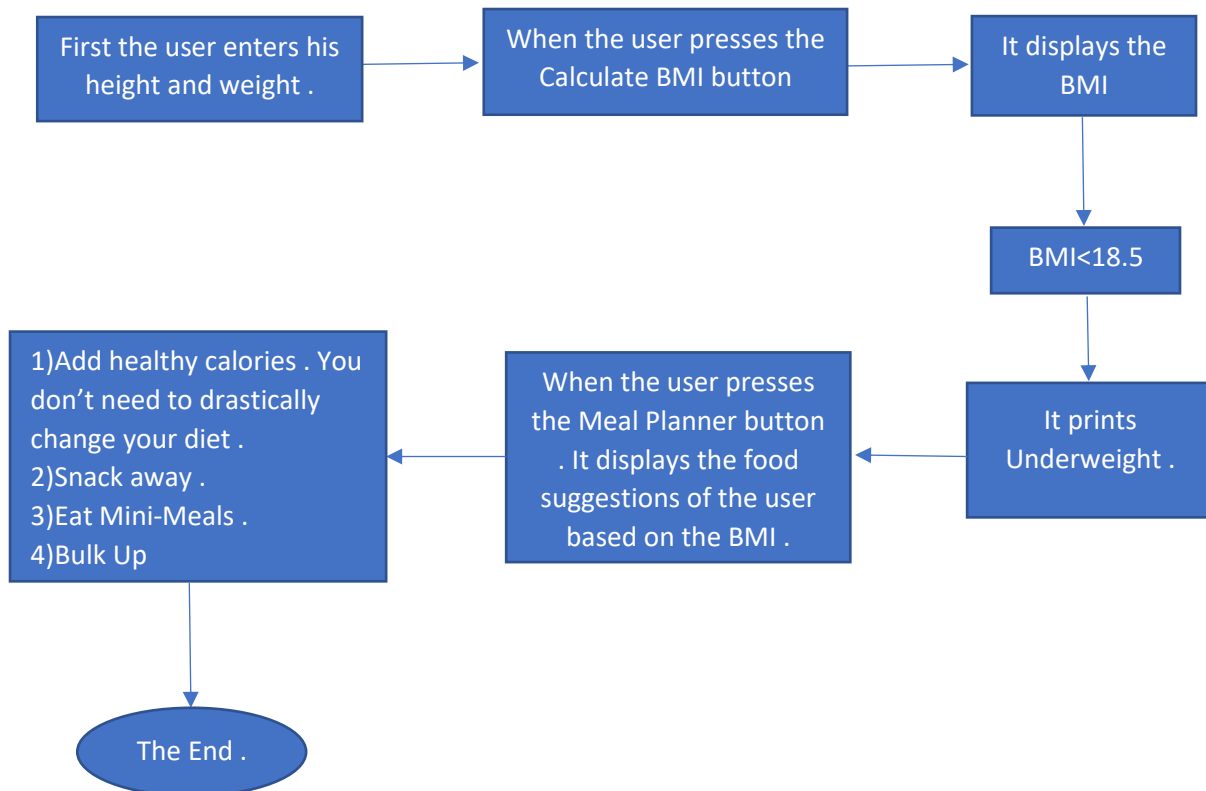
Very Severely Underweight :



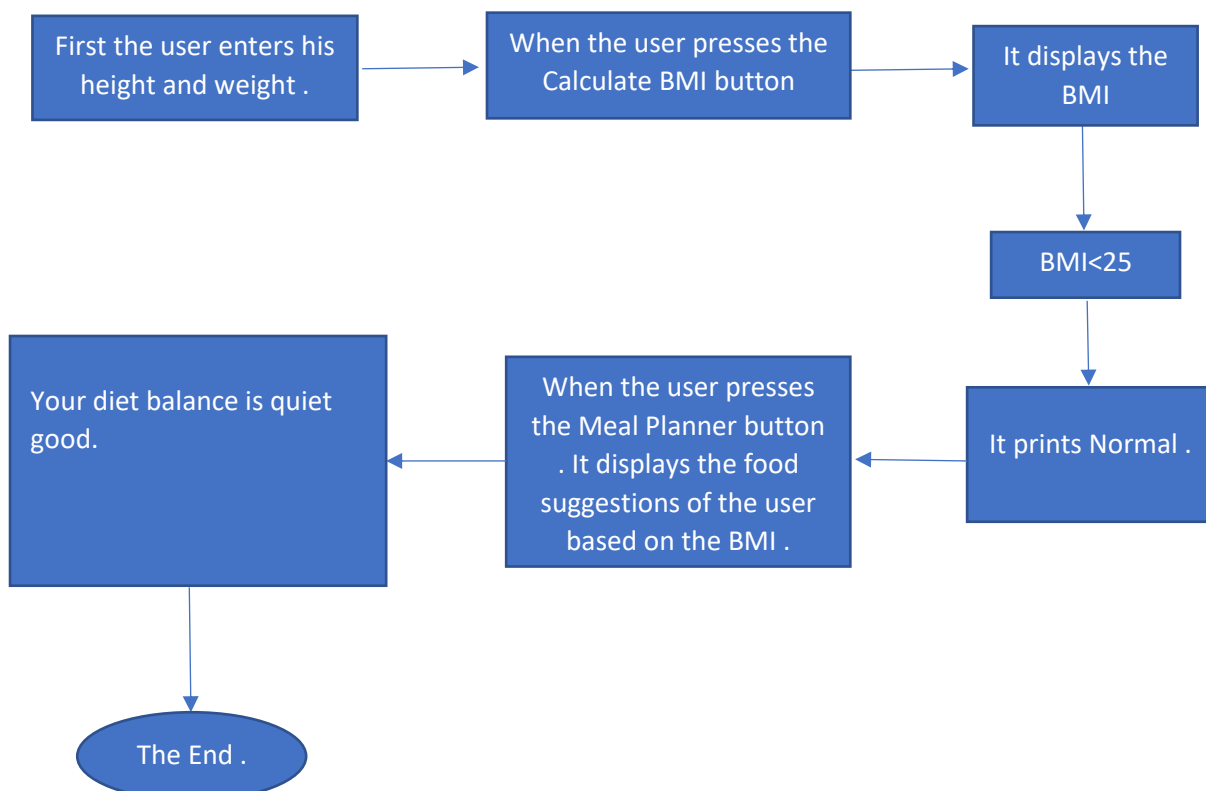
Severely Underweight :



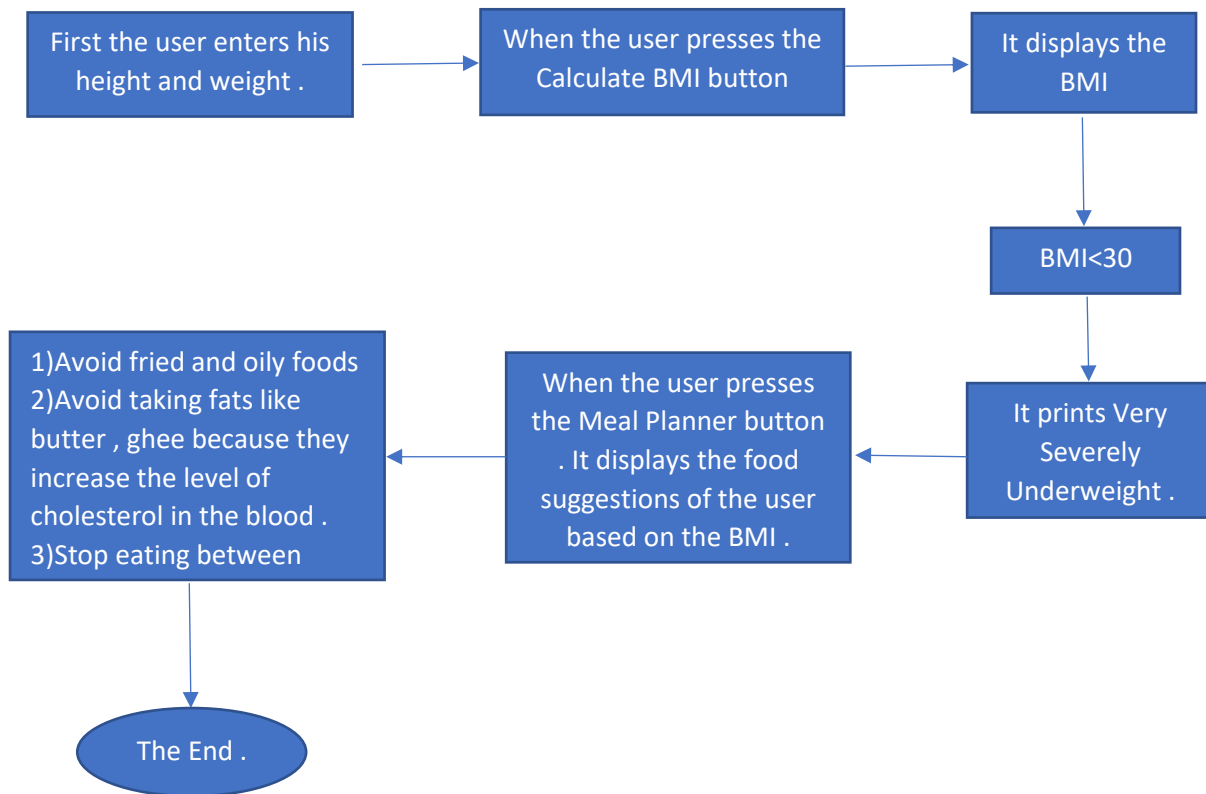
Underweight :



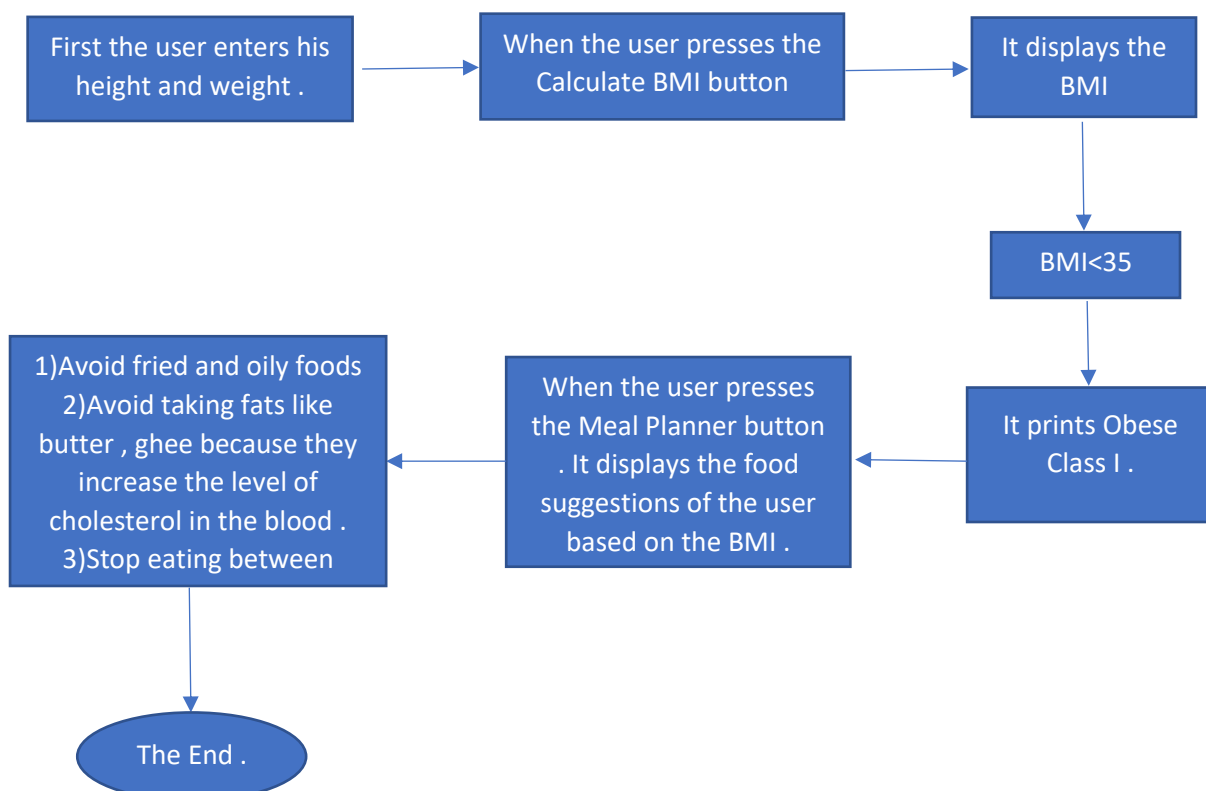
Normal :



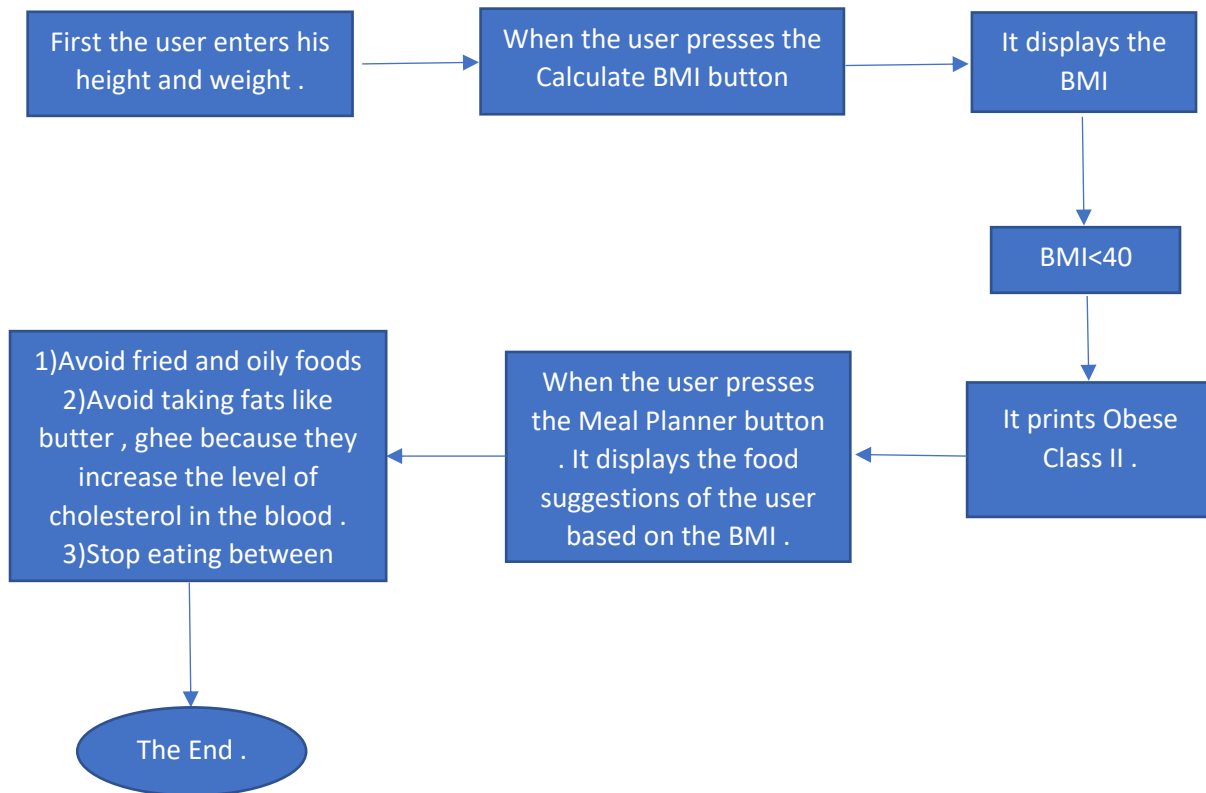
Overweight :



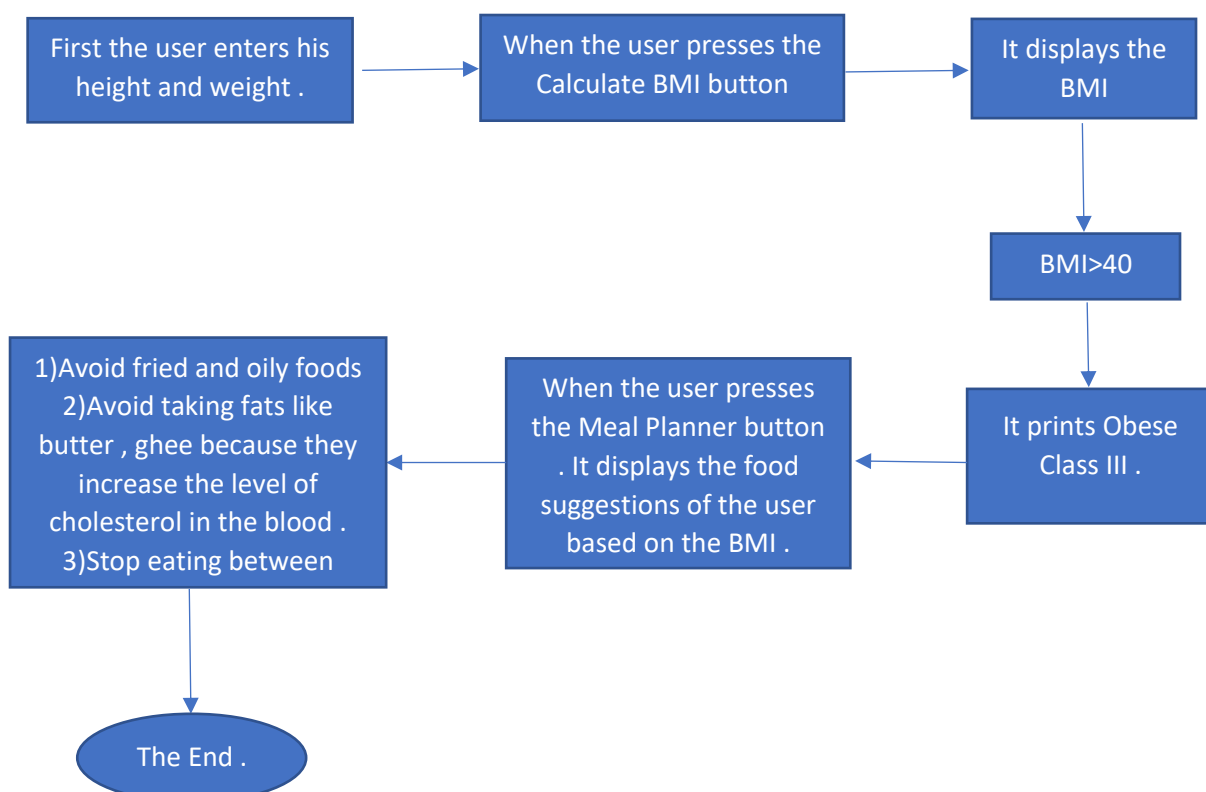
Obese Class I :



Obese class II :



Obese Class III :



Data Base Tables :

Very Severely Underweight :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.73	43	14.4	Very Severely Underweight	1)Add healthy calories . You don't need to drastically change your diet . 2)Snack away . 3)Eat Mini-Meals . 4)Bulk Up .

Severely Underweight :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.70	45	15.6	Severely Underweight	1)Add healthy calories . You don't need to drastically change your diet . 2)Snack away . 3)Eat Mini-Meals . 4)Bulk Up .

Underweight :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.75	55	18	Underweight	1)Add healthy calories . You don't need to drastically change your diet . 2)Snack away . 3)Eat Mini-Meals . 4)Bulk Up .

Normal :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.61	51	19.7	Normal	Your diet balance is quiet good .

Overweight :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.76	82	26.5	Overweight	1)Avoid fried and oily foods . 2)Avoid taking fats like butter , ghee because they increase the level of cholesterol in the blood . 3)Stop eating between meals 4)Eating something always increases the calorie intake and thus increases weight .

Obese Class I :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.53	74	31.6	Obese Class I	1)Avoid fried and oily foods . 2)Avoid taking fats like butter , ghee because they increase the level of cholesterol in the blood . 3)Stop eating between meals 4)Eating something always increases the

				calorie intake and thus increases weight .
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Obese Class II :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.66	101	36.7	Obese Class II	1)Avoid fried and oily foods . 2)Avoid taking fats like butter , ghee because they increase the level of cholesterol in the blood . 3)Stop eating between meals 4)Eating something always increases the calorie intake and thus increases weight .

Obese Class III :

Height (m)	Weight (kg)	Calculate BMI	Category	Meal Suggestion
1.55	105	43.7	Obese Class III	1)Avoid fried and oily foods . 2)Avoid taking fats like butter , ghee because they increase the level of cholesterol in the blood . 3)Stop eating between meals 4)Eating something always increases the calorie intake and thus increases weight .

Outcome :

Use of BMI Calculator :

- BMI can be used for population assessment of overweight and obesity.
- As calculation requires only height and weight, it is inexpensive and easy to use for clinicians and for the general public
- BMI can be used as a screening tool for body fatness but is not diagnostic.

Benefits of BMI Calculator :

- Accurate measurement across a group .
- People have become more busy in their jobs that cooking healthy food has become increasingly difficult and less important and eating out is the trend. Women as well as children are now on the top list of obese people . This can be reduced by following the suggestions for food given by the BMI Calculator after calculation of their particular BMI .

Conclusion :

An android application that calculates body mass index on different categories including underweight, normal weight, pre-obese and obese is needed by the health conscious community. However, only a few in the market today which can suggest Indian dishes as part of the application. Hence, with the development of BMI Calculation Android Application, this source assist particularly Indian people in eating healthily by including Indian meal suggestion module in the android application which can recommend suitable dishes based on the body mass index categories.

References :

- <https://www.nitrocut.com/bmi-calculator/>
- <https://www.medicalnewstoday.com/reviewers>
- https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm
- <https://docs.microsoft.com/en-us/sql/ssms/visual-db-tools/design-database-diagrams-visual-database-tools>
- https://www.cengage.com/school/corpvew/RegularFeatures/DatabaseTutorial/db_elements/db_elements2.htm
- <https://www.psychologytoday.com/us/blog/eating-disorders-news/201503/the-new-improved-bmi>

“When diet is wrong , medicine is of no use . When diet is correct , medicine is of no need . “