Datathon #1

Understanding the relationship between adult lifestyle factors and risk of obesity

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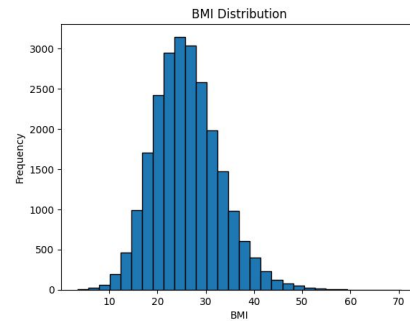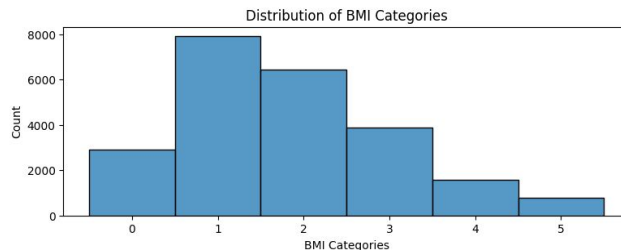
1 Identify Variables
- Gender
- Age
- calorie intake
- sugar intake
- physical activity
- fast food frequency
- screen time

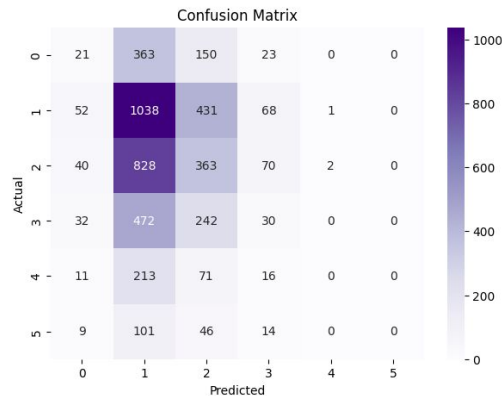## 2 Exploratory Analysis

Distribution of BMI Categories

BMI Distribution

3 KNN Model
- Poor precision

Confusion Matrix

4 Decision Tree Model
- hierarchical method that makes decisions based on explicit rules
- Better precision and accuracy

	precision	recall	f1-score	support
3	0.76	0.90	0.83	1537
2	0.46	0.30	0.36	1553
5	0.56	0.46	0.50	1592
1	0.74	0.80	0.77	1680
0	0.86	0.99	0.92	1614
4	0.91	1.00	0.95	1531
accuracy			0.74	9507
macro avg	0.71	0.74	0.72	9507
weighted avg	0.71	0.74	0.72	9507

Key Takeaways:

- The relationship between BMI and lifestyle factors are not linear
- Select lifestyle factors alone are average predictors of BMI.
- BMI is complex as both genetic and lifestyle factors contribute to obesity