Python Data Dive Activities Unit 3.1

1. Given a dataset of customer support tickets, suggest proper labels for categorizing them. Possible labels could include "Technical Issue," "Billing Inquiry," "Product Feedback," etc.

2. Imagine a dataset containing customer reviews for an e-commerce platform. What labels would you assign for sentiment analysis? For instance, labels like "Positive," "Neutral," and "Negative."

3. In a medical scenario, how would you label patient records for a predictive model related to heart disease? Consider labels such as "High Risk," "Low Risk," or "No Risk."

4. If you have data on employee performance, what labels would you suggest for a model predicting employee success? Labels might include "High Performer," "Average Performer," and "Low Performer."

5. Consider the following dataset representing the study hours, previous exam scores, and results (Pass/Fail) of students:

Hours Studied	Previous Exam Score	Result (Pass/Fail)
3	75	Pass
5	82	Pass
2	60	Fail
8	90	Pass
6	78	Pass
1	45	Fail
4	70	Pass
7	88	Pass

Describe how you would divide this dataset into Training, Testing, and Validation data, including the rationale for your chosen split.