* Explain what Python environment you have set up on your system and if you have success running through the command/code in Chapter 1 of the textbook.

I am using Base Python3.10 which I set up in the previous semester. And I am using VS Code as an IDE.

I am using the Jupyter notebook extension in VSCode. I run the code using VSCode it worked successfully.

* What are the two most common supervised tasks?

The two most common supervised tasks are

regression and

classification.

* Can you name four common unsupervised tasks?

Four common unsupervised tasks are

clustering,

visualization,

Anomaly detection

association rule,

dimensionality reduction.

* If your model performs great on the training data but generalizes poorly to new instances, what is happening? Can you name three possible solutions?

If the model performs great on the training data but generalizes poorly to new instances, the model is likely overfitting the training data.

To counteract overfitting, we could gather more data we can use to simplify the model by selecting simple algorithms.

And reducing the complexity of the model by removing features or constraining the parameters.

we can reduce noisiness in the training data by removing outliers and fixing errors.