1. Machine Learning in my own words would be when code is able to do something that humans can't do in a reasonable amount of time. For example, searching through thousands of data to find something specific.

2. The importance of data in machine learning is that without good, clean data, machine learning will not be useful. The data that we obtain is what is used to be able to get what we want. The better the data is and the more we have will allow us to make better assumptions. Patterns are also important because that is how the computer is able to analyze the organized data and determine if a pattern exists. Patterns help the programmer infer the answer to their problem. Accuracy ties into this as well. If the predictions are not accurate then it's just a random guess but with machine learning, we can minimize the inaccuracy by using many different algorithms.

3. In my opinion, AI and ML are similar. Both AI and ML are learning through the use of data. ML is like a subsection of AI. AI would be considered the big overarching topic and ML would be a branch of that because in essence, ML is AI.

4. 2 Examples of modern machine learning applications would be something we use everyday on our smartphones. Touch ID and occasionally Face recognition. Both of these applications can not be built using traditional programming because everyone doesn't look the same and therefore data can not be manually coded. If everyone had the same face and fingerprint then traditional programming would work here but since that isn't the case, Machine Learning is needed.

5. Observation would be the rows of data. If a table has 5 rows of data then it would be called an observation. Just like observation, a feature would be for the columns of the table. If a table had 5 columns then it would have 5 features. Among the data, there will be quantitative data which is data that is numerical and qualitative data which would be something that only has 1 finite set of values. For example, the number of tacos sold in a shop would be the qualitative data while the type of taco sold (Steak, Chicken, etc) would be the qualitative data.

6. I am interested in Machine Learning because I would like to see how data is transformed into predictions and how code is able to do that. I would like to learn more about Machine Learning to see if I can help trivialize projects in the future so that I don’t need to manually code things and can just have the code detect patterns and just do it that way.