Data Science Boot Camp Roadmap

1. **Introduction:**
2. **Numpy:**
   - Introduction to Numpy
   - Numpy Arrays
   - Shape and Reshape
   - Numpy Array Indexing
   - Iterating Numpy Arrays
   - Slicing
   - Numpy Array Searching and Sorting
3. **Pandas:**
   - Pandas Introduction
   - Series in Pandas
   - Pandas DataFrame
   - Read CSV
   - Analyzing Data Frames in Pandas
4. **Data Visualization:**
   - Introduction to Matplotlib
   - Different Types of Plots in Matplotlib
   - Seaborn
5. **Data Preprocessing:**
   - Handling Missing Values
   - Feature Encoding
   - Feature Scaling
6. **Machine Learning:**
   - Introduction to Machine Learning
   - Supervised Machine Learning
   - Unsupervised Machine Learning
   - Machine Learning Life Cycle
   - Train Test Split
   - Regression Analysis
   - Linear Regression
   - Logistic Regression
   - KNN (K-Nearest Neighbors)
   - SVM (Support Vector Machine)
   - Decision Tree
   - Random Forest
   - K Means Clustering
   - Hyper Parameter Optimization with GridSearchCV
   - Machine Learning Pipeline
   - Machine Learning Model Evaluation Metrics
7. **Cloud Computing for Machine Learning:**
   - Cloud Computing Introduction
   - Introduction to AWS
   - Different AWS Services
   - Introduction to AWS SageMaker
   - First Machine Learning Practical on AWS SageMaker
   - Built-in ML Algorithms in AWS SageMaker
   - Linear Learner Algorithm Practical Implementation
   - No Code ML using AWS SageMaker Canvas
   - AWS SageMaker Marketplace
8. **Deep Learning:**
   - Artificial Neural Network (ANN)

- Activation Functions in Neural Networks
- Optimizers in Neural Networks
- Convolutional Neural Network (CNN)
- Recurrent Neural Network (RNN)