

1. What is Decision Tree? Explain decision tree to guess Animal
2. Explain Entropy. Explain  $-p \log p$  for the entropy with Python coding and How the entropy partition is done
3. What is Neural Network? Explain its significance in Data Science
4. Create a decision tree for person choosing various programming language using partition the entropy for hiring process
5. With Python code explain how all decision tree is put together in Random Forest
6. Define Perceptron? With Python code explain Decision space for two input perceptron
7. Explain the concept of Sequence of Linear Layer in Neural Network
8. What is Layer abstraction in Deep Learning, How it differs from AI and Data science
9. With Python Coding explain Loss and optimization for Deep Learning
10. What is bottom-up Hierarchical Clustering, Explain with Python code
11. How Grammers impact on Natural Language Processing, explain with Python coding
12. With an example explain how Word Vector works in the Natural Language Processing
13. Explain Gibbs Sampling with Python coding
14. Explain Recurrent Neural Network? Explain its significance in Natural Language Processing?
15. How Recommender System works in User based Collaborative Filtering
16. With Python Coding explain Item Based Collaborative Filtering
17. Explain Data science for Betweenness Centrality
18. Explain how The DataSciencester network of endorsements in Directed Graph and Page Rank