

- 001.** Which of the following is an advantage of stacking? **B**
 A Less complexity B Better prediction
 C Lower time of execution D Low Memory
- 002.** SVM stands for? **B**
 A Simple Vector Machine B Support Vector Machine
 C Super Vector Machine D Small Vector Machine
- 003.** SVM is a supervised Machine Learning can be used for _____. **C**
 A Regression B Classification
 C Either A or B D Clustering
- 004.** In SVM, Linear separator, Hyper plane **C**
 A $f(x)=\text{sign}(w/x+b)$ B $f(x)=\text{sign}(w+x+b)$
 C $f(x)=\text{sign}(w*x+b)$ D $f(x)=\text{sign}(w-x+b)$
- 005.** Which of the following is not an ensemble learning technique? **D**
 A Bagging B Boosting
 C Stacking D PCA
- 006.** Which of the following is true about averaging ensemble? **C**
 A It can only be used in classification problem B It can only be used in regression problem
 C It can be used in both classification as well as regression D It can't be used in classification as well as regression
- 007.** Which of the following algorithm is not an example of an ensemble method? **D**
 A Extra Tree Regressor B Random Forest
 C Gradient Boosting D Decision Tree
- 008.** Generally, an ensemble method works better, if the individual base models have _____? Note: Suppose each individual base models have accuracy greater than 50% **A**
 A Less correlation among predictions B High correlation among predictions
 C Correlation does not have any impact on ensemble output D None of the above
- 009.** Suppose you are dealing with 4 class classification problem and you want to train a SVM model on the data for that you are using One-vs-all method. How many times we need to train our SVM model in such case? **D**
 A 1 B 2
 C 3 D 4
- 010.** Suppose you have trained an SVM with linear decision boundary after training SVM, you correctly infer that your SVM model is underfitting. Which of the following option would you more likely to consider iterating SVM next time? **C**
 A You want to increase your data points B You want to decrease your data points
 C You will try to calculate more variables D You will try to reduce the features variables
- 011.** If a dataset can be classified into two classes by using a single straight line, is called _____ **A**
 A Linear SVM B Non-Linear SVM
 C Kernel SVM D Cluster SVM
- 012.** Naive Bayes is? **A**
 A Conditional Independence B Conditional Dependence
 C Un-conditional Independence D Un-conditional dependence
- 013.** Support vector machines is _____ **C**
 A Semi-supervised Machine Learning B Unsupervised Machine Learning
 C Supervised Machine Learning D Reinforcement learning
- 014.** The effectiveness of an SVM NOT depends upon _____ **D**
 A Selection of Kernel B Kernel Parameters
 C Soft Margin Parameter C D Size of data set

015. In Hyper plane, $f(x)=\text{sign}(w*x+b)$ where w is a? **B**
 A Constant B Vector
 C Distance D Width
016. Closest Point to the hyper plane are support vectors **A**
 A True B False
 C Unpredictable D True in few cases only
017. Which of the following is the consequence between a node and its predecessors while creating bayesian network? **A**
 A Conditionally independent B Functionally dependent
 C Both Conditionally dependant&Dependant D Dependent
018. Bayes rule can be used for _____ **C**
 A Solving queries B Increasing complexity
 C Answering probabilistic query D Decreasing complexity
019. Which of the following is NOT True about Ensemble Techniques? **D**
 A Bagging decreases the variance of the classifier. B Boosting helps to decrease the bias of the classifier.
 C Bagging combines the predictions from different models and then finally gives the results. D Bagging and Boosting are the only available ensemble techniques.
020. The formula for Bayes ' theorem is given as: **B**

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$
 Where $P(B|A)$ is _____?
 A Posterior probability B Likelihood probability
 C Prior Probability D Marginal Probability
021. In Naive Bayes, Numerical variable must be binned and converted to? **A**
 A Categorical Values B Numerical Values
 C Only zeros D Only ones
022. _____ terms are required for building a bayes model. **C**
 A 1 B 2
 C 3 D 4
023. Naive Bayes requires? **B**
 A Numerical Values B Categorical Values
 C Exponential Values D in between 0 and 1 only
024. Spam Classification is an example for? **A**
 A Naive Bayes B Probabilistic condition
 C Random Forest D Logistic Regression
025. Which of the following is NOT true about Support Vector Regression? **D**
 A It is a supervised learning algorithm that is used to predict discrete values B It uses the same principle as the SVMs
 C he basic idea behind SVR is to find the best fit line D In SVR, the best fit line is the hyperplane that has the minimum number of points
026. Which of the following is not a machine learning algorithm? **A**
 A SVG B SVM
 C Random forest D SVR
027. Which of the following is NOT true about hyperplane in SVM? **C**
 A This best boundary is known as the hyperplane of SVM. B The dimensions of the hyperplane depend on the features present in the dataset
 C If there are 2 features , then hyperplane will be a 2-dimension D We always create a hyperplane that has a maximum margin

C Dynamic Model

D Logical Structure

041. Which of the following is true about weighted majority votes? 1. We want to give higher weights to better performing models 2. Inferior models can overrule the best model if collective weighted votes for inferior models is higher than best model 3. Voting is special case of weighted voting 4. We want to give low weights to better performing models **D**

A 1 and 2

B 1 and 3

C 1, 2 and 4

D 1, 2 and 3

042. Which of the following are correct statement(s) about stacking? 1. A machine learning model is trained on predictions of multiple machine learning models 2. A Logistic regression will definitely work better in the second stage as compared to other classification methods 3. First stage models are trained on full / partial feature space of training data 4. A machine learning model is trained on prediction of single machine learning model **C**

A 1 and 2

B 2 and 3

C 1 and 3

D 2 and 4

043. Which of the following can be one of the steps in stacking? 1. Divide the training data into k folds 2. Train k models on each k-1 folds and get the out of fold predictions for remaining one fold 3. Divide the test data set in k folds and get individual fold predictions by different algorithms **A**

A 1 and 2

B 2 and 3

C 1 and 3

D 1, 2 and 3

044. Disadvantages of Nave Bayes Classifier _____ **A**

A Naive Bayes assumes that all features are independent or unrelated, so it cannot learn the relationship between features.

B It performs well in Multi-class predictions as compared to the other Algorithms.

C Nave Bayes is one of the fast and easy ML algorithms to predict a class of datasets.

D It is the most popular choice for text classification problems.

045. Suppose you are given n predictions on test data by n different models (M1, M2, . Mn) respectively. Which of the following method(s) can be used to combine the predictions of these models? Note: We are working on a regression problem 1. Median 2. Product 3. Average 4. Mode **D**

A 1, 2

B 2, 3 and 4

C 3, 4

D 1, 2 and 3

046. How can we assign the weights to output of different models in an ensemble? 1. Use an algorithm to return the optimal weights 2. Choose the weights using cross validation 3. Give low weights to more accurate models 4. Give high weights to more accurate models **C**

A 1 and 2

B 1 and 3

C 1, 2 and 4

D 1, 2 and 3

047. What is true about an ensembled classifier? 1. Classifiers that are more sure can vote with more conviction 2. Classifiers can be moresureabout a particular part of the space 3. Most of the times, it performs better than a single classifier **D**

A 1 and 2

B 1 and 3

C 2 and 3

D 1, 2 and 3

048. Which of the following option is / are correct regarding benefits of ensemble model? 1. Better performance 2. Generalized models 3. Better interpretability **C**

A 1 and 3

B 2 and 3

C 1 and 2

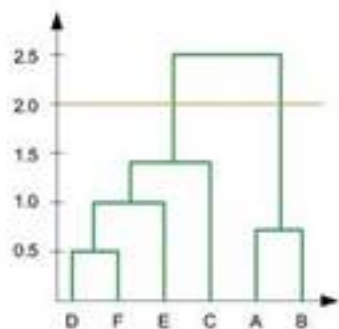
D 1, 2 and 3

049. Which of the following method is used for finding optimal of cluster in K-Mean algorithm? **A**

A Elbow method

B Manhattan method

- 074.** Which of the following option is true? **A**
- A LDA explicitly attempts to model the difference between the classes of data. PCA on the other hand does not take into account any difference in class.
- B Both attempt to model the difference between the classes of data.
- C PCA explicitly attempts to model the difference between the classes of data. LDA on the other hand does not take into account any difference in class.
- D Both dont attempt to model the difference between the classes of data.
- 075.** Imagine you are dealing with 10 class classification problem and you want to know that at most how many discriminant vectors can be produced by LDA. What is the correct answer? **B**
- A 20
- B 9
- C 21
- D 11
- 076.** PCA generally tries to find the _____ dimensional surface to project the _____ dimensional data. **A**
- A Lower, higher
- B Higher, lower
- C Lower, lower
- D Upper, upper
- 077.** Which of the following statement is true for a t-SNE cost function? **B**
- A It is asymmetric in nature.
- B It is symmetric in nature.
- C It is same as the cost function for SNE.
- D It is same as t-test
- 078.** Which of the following statement is correct for t-SNE and PCA? **D**
- A t-SNE is linear whereas PCA is non-linear
- B t-SNE and PCA both are linear
- C t-SNE and PCA both are nonlinear
- D t-SNE is nonlinear whereas PCA is linear
- 079.** Which of the following is/are not true about Centroid based K-Means clustering algorithm and Distribution based expectation-maximization clustering algorithm **D**
- A Both starts with random initializations
- B Both are iterative algorithms
- C Both have strong assumptions that the data points must fulfill
- D Expectation maximization algorithm is a special case of K-Means
- 080.** Which of the following algorithm is most sensitive to outliers? **A**
- A K-means clustering algorithm
- B K-medians clustering algorithm
- C K-modes clustering algorithm
- D K-centered clustering algorithm
- 081.** In the figure below, if you draw a horizontal line on y-axis for $y=2$. What will be the **B**



number of clusters formed?

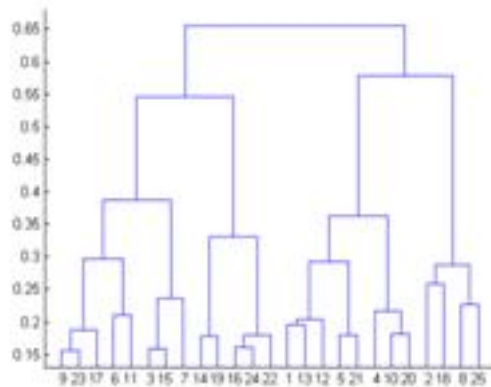
- A 1
- B 2
- C 3
- D 4
- 082.** If you are using Multinomial mixture models with the expectation-maximization algorithm for clustering a set of data points into two clusters, which of the assumptions are important: **C**

- A All the data points follow two Gaussian distribution
- B All the data points follow n Gaussian distribution ($n > 2$)
- C All the data points follow two multinomial distribution
- D All the data points follow n multinomial distribution ($n > 2$)

083. The most popularly used dimensionality reduction algorithm is Principal Component Analysis (PCA). Which of the following is/are true about PCA? PCA is an unsupervised method. It searches for the directions that data have the largest variance. Maximum number of principal components \leq number of features. All principal components are not orthogonal to each other. **C**

- A 1,2
- B 2,3
- C 1,2,3
- D 1,2,4

084. After performing K-Means Clustering analysis on a dataset, you observed the following dendrogram. Which of the following conclusion can be drawn from the **D**



dendrogram?

- A There were 28 data points in clustering analysis
- B The best no. of clusters for the analyzed data points is 4
- C The proximity function used is Average-link clustering
- D The above dendrogram interpretation is not possible for K-Means clustering analysis

085. How can Clustering (Unsupervised Learning) be used to improve the accuracy of Linear Regression model (Supervised Learning)? Creating different models for different cluster groups. Creating an input feature for cluster ids as an ordinal variable. Creating an input feature for cluster centroids as a continuous variable. Creating an input feature for cluster size as a continuous variable. **C**

- A 1 only
- B 1 and 2
- C 1, 2, 3 and 4
- D 1, 2 and 3

086. Which of the following clustering algorithms suffers from the problem of convergence at local optima? K-Means clustering algorithm. Agglomerative clustering algorithm. Expectation-Maximization clustering algorithm. Diverse clustering algorithm. **D**

- A 1 only
- B 2 and 3
- C 2 and 4
- D 1 and 3

087. In which of the following case LDA will fail? **A**

- A If the discriminatory information is not in the mean but in the variance of the data
- B If the discriminatory information is in the mean but not in the variance of the data
- C If the discriminatory information is in the mean and variance of the data
- D If the discriminatory information is not in the mean and not in the variance of the data

088. Which of the following comparison(s) are true about PCA and LDA? Both LDA and PCA are linear transformation techniques. LDA is supervised whereas PCA is unsupervised. PCA maximize the variance of the data, whereas LDA maximize the separation between different classes. **D**

- 100.** The fundamental unit of network is **C**
 A brain B nucleus
 C neuron D axon
- 101.** Whats the main point of difference between human & machine intelligence? **A**
 A human perceive everything as a pattern while machine perceive it merely as data B human have emotions
 C human have more IQ & intellect D human have sense organs
- 102.** What is auto-association task in neural networks? **B**
 A find relation between 2 consecutive inputs B related to storage & recall task
 C predicting the future inputs D reducing features
- 103.** Example of a unsupervised feature map? **B**
 A text recognition B voice recognition
 C image recognition D image classification
- 104.** What is plasticity in neural networks? **A**
 A input pattern keeps on changing B input pattern has become static
 C output pattern keeps on changing D output is static
- 105.** John hopfield was credited for what important aspec of neuron? **C**
 A learning algorithms B adaptive signal processing
 C energy analysis D searching algorithms
- 106.** What is ART in neural networks? **C**
 A automatic resonance theory B artificial resonance theory
 C adaptive resonance theory D abstract resonance theory
- 107.** Who proposed the first perceptron model in 1958? **D**
 A McCulloch-pitts B Marvin Minsky
 C Hopfield D Rosenblatt
- 108.** Where does the chemical reactions take place in neuron? **C**
 A dendrites B axon
 C synapses D nucleus
- 109.** What is purpose of Axon? **C**
 A receptors B transmitter
 C transmission D generator
- 110.** Operations in the neural networks can perform what kind of operations? **D**
 A serial B parallel
 C random D serial or parallel
- 111.** Which action is faster pattern classification or adjustment of weights in neural nets? **A**
 A pattern classification B adjustment of weights
 C equal D either of them can be fast, depending on conditions
- 112.** Which of the following is NOT an example of deep learning? **B**
 A Self-driving cars B Home price prediction
 C Natural language processing D Pattern recognition
- 113.** Autoencoder is an example of _____ **A**
 A Deep learning B Machine learning
 C Data mining D Data warehousing
- 114.** The procedure to incrementally update each of weights in neural is referred to as? **D**
 A synchronization B learning law
 C learning algorithm D both learning algorithm & law
- 115.** What is an activation value? **A**
 A weighted sum of inputs B threshold value
 C main input to neuron D initial value of neuron
- 116.** Positive sign of weight indicates? **A**
 A excitatory input B inhibitory input

- C can be either excitatory or inhibitory as such D excitatory output
- 117.** Negative sign of weight indicates? **B**
 A excitatory input B inhibitory input
 C excitatory output D inhibitory output
- 118.** The amount of output of one unit received by another unit depends on what? **D**
 A output unit B input unit
 C activation value D weight
- 119.** What is gradient descent? **B**
 A Activation function B Optimization algorithm
 C Loss function D Cost function
- 120.** What does a gradient descent algorithm do? **C**
 A Tries to find the parameters of a model that minimizes the cost function B Adjusts the weights at the input layers
 C Both A and B D Neither A nor B
- 121.** Which of the following loss function is used in regression? **C**
 A Logarithmic loss B Cross entropy
 C Mean squared error D sigmoid function
- 122.** Which of the following deep learning models uses back propagation? **C**
 A Convolutional Neural Network B Multilayer Perceptron Network
 C Recurrent Neural Network D Reinforcement Network
- 123.** Which of the following is not a method used to prevent overfitting in a neural network? **D**
 A Dropout of neurons B Early stopping
 C Batch normalization D one hot encoding
- 124.** Which of the following is NOT a deep learning library? **B**
 A Tensorflow B Pandas
 C PyTorch D Keras
- 125.** Which of the following is true about bias? **C**
 A Bias is inherent in any predictive model B Bias impacts the output of the neurons
 C Both A and B D Neither A nor B
- 126.** In TensorFlow, what is the use of a session? **B**
 A The current work space session for storing the code B We launch the graph in a session
 C A session is used to download the data D A session is used for exporting data out of TensorFlow
- 127.** How can we improve the calculation speed in TensorFlow, without losing accuracy? **A**
 A Using GPU B By doing random sampling on Tensors
 C By removing few nodes from computational graphs D By removing the hidden layers
- 128.** How calculations work in TensorFlow **C**
 A Through vector multiplications B Through RDDs
 C Through Computational Graphs D Through map reduce tasks
- 129.** Which of the following activation function can not be used in the output layer of an image classification model? **A**
 A ReLu B Softmax
 C Sigmoid D Log function
- 130.** Suppose you have a dataset from where you have to predict three classes. Then which of the following configuration you should use in the output layer? **A**
 A Activation function = softmax, loss function = cross entropy B Activation function = sigmoid, loss function = cross entropy
 C Activation function = softmax, loss D Activation function = sigmoid, loss

