

## **MACHINE LEARNING**

**1 – D**

**2 – A**

**3 – A**

**4 – B**

**5 – A,B,C**

**6 – c**

**7 – D**

**8 – A**

**9 – A**

**10 – A**

**11 – A**

**12 – B**

**13** – Clustering is important in data analysis and data mining applications. It is the task of grouping a set of objects so that objects in the same group are more similar to each other than to those in other groups (clusters).

**14** - Graph-based clustering performance can easily be improved by applying ICA blind source separation during the graph Laplacian embedding step. Applying unsupervised feature learning to input data using either RICA or SFT, improves clustering performance.

## **STATISTICS WORKSHEET**

- 1-** B
- 2-** C
- 3-** A
- 4-** A
- 5-** B
- 6-** B
- 7-** B
- 8-** D
- 9-** A
- 10-** Bayes' Theorem states that the conditional probability of an event, based on the occurrence of another event, is equal to the likelihood of the second event given the first event multiplied by the probability of the first event.
- 11-** A Z-score is a numerical measurement that describes a value's relationship to the mean of a group of values. Z-score is measured in terms of standard deviations from the mean. If a Z-score is 0, it indicates that the data point's score is identical to the mean score.
- 12-** A t-test is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another.
- 13-** In statistics, a percentile is a term that describes how a score compares to other scores from the same set. While there is no universal definition of percentile, it is commonly expressed as the percentage of values in a set of data scores that fall below a given value.
- 14-** ANOVA stands for Analysis of Variance. It's a statistical test that was developed by Ronald Fisher in 1918 and has been in use ever since. Put simply, ANOVA tells you if there are any statistical differences between the means of three or more independent groups.
- 15-** ANOVA is helpful for testing three or more variables. It is similar to multiple two-sample t-tests. However, it results in fewer type I errors

and is appropriate for a range of issues. ANOVA groups differences by comparing the means of each group and includes spreading out the variance into diverse sources.

## **WORKSHEET 3 SQL**

**1- Write SQL query to create table Customers**

**Ans :** "create table Customer (customer\_nummber  
VARCHAR(10), c\_name VARCHAR(10),c\_lname  
VARCHAR(10),c\_fname VARCHAR(10),address  
VARCHAR(10),city VARCHAR(10),state  
VARCHAR(10),postal\_code integer(6),country  
VARCHAR(10),credit\_l VARCHAR(10), phone integer(10))"

**2- Write SQL query to create table Orders.**

**Ans:** create table Order\_table (order\_nummber integer(8),  
order\_date integer(8),re\_date integer(8),shipped\_date  
integer(8),status VARCHAR(10),comments  
VARCHAR(10),customer\_num integer(8))"

**3- Write SQL query to show all the columns data from the Orders Table.**

**Ans :** show columns \* from Order\_table;

**4- Write SQL query to show all the comments from the Orders Table.**

**Ans:** SELECT commnets \* FROM Order\_table;

**5- Write a SQL query to show orderDate and Total number of orders placed on that date, from Orders table.**

**Ans :** SELECT order Data, Total Number of order \* FROM  
Order\_table ORDER BY date;

**6- Write a SQL query to show employeeNumber, lastName, firstName of all the employees from employees table.**

**Ans:** SELECT employee\_number, lastname, Firstname FROM Employee\_table;

**7- Write a SQL query to show all order Number, customer Name of the person who placed the respective order.**

**Ans:** "SELECT Order\_details\_table.Order\_number, order\_table.customer\_name, FROM order\_details\_table INNER JOIN order\_table ON order.table.Order\_number = order\_details\_table.order\_number

**8- Write a SQL query to show name of all the customers in one column and saleremployee name in another column.**

**Ans:** SELECT customer\_name, saler\_employeeename FROM customer\_table;

**9- Write a SQL query to show Date in one column and total payment amount of the payments made on that date from the payments table.**

**Ans:** SELECT payment\_date, Amount FROM Payment\_table;

**10- Write a SQL query to show all the products productName, MSRP, product Description from the products table**

**Ans:** SELECT product name, MSRP, product description FROM Product\_table;

**11- Write a SQL query to print the productName, productDescription of the most ordered product**

**Ans:** SELECT product\_name, product\_description AS  
most\_order product \*FROM Product\_table  
GROUP BY product\_name, product\_description  
ORDER BY COUNT(\*) DESC

**12- Write a SQL query to print the city name where maximum number of orders were placed.**

**Ans:** SELECT City, Count(City) AS 'MAX\_COUNT' FROM  
Customer\_Table Group By City Order By 'MAX\_COUNT'  
DESC;

**13- Write a SQL query to get the name of the state having maximum number of customers.**

**Ans:** SELECT state, Count(state) AS 'MAX\_COUNT' FROM  
Customer\_Table Group By state Order By 'MAX\_COUNT'  
DESC;

**14- Write a SQL query to print the employee number in one column and Full name of the employee in the second column for all the employees.**

**Ans:** SELECT concat first\_name,' 'last\_name,  
Employee\_number, FROM employee\_tables;

**15- Write a SQL query to print the orderNumber, customer Name and total amount paid by the customer for that order (quantity Ordered × price Each).**

**Ans:** SELECT order\_number, Sum(quantity\_order \* Price  
each) AS Total amount paid

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FROM order_num, [Order_details_table] WHERE  
order_table.order_number =  
[Order_details_table].Order_number GROUP BY order.number
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