Name:Vishal Chauhan

PRN:2020BTECS00090

ASS:2

1. List of Frameworks/IDEs/Softwares a. Eclipse b. Android SDK c. Node.Js d. DotNet e. Ruby on Rails f. Anaconda g. Google colab h. Django i. Vue.js j. GitHub k. React For every Frameworks/IDEs/Softwares

given above provide the answers for below questions 1. Original author 2. Developers 3. Initial release 4. Stable release 5. Preview release 6. Repository (with cloud support ) 7. Written in (Languages) 8. Operating System support 9. Platform ,portability 10. Available in (Total languages) 11. List of languages supported 12. Type (Programming tool, integrated development environment etc.) 13. Website 14. Features 15. Size (in MB, GB etc.) 16. Privacy and Security 17. Type of software (Open source/License) 18. If License- Provide details. 19. Latest version 20. Cloud support (Yes/No) 21. Applicability 22. Drawbacks (if any)

# I:Node.js

# Original author: Ryan Dahl

# Developers: Node.js Foundation

# Initial release: May 27, 2009

# Stable release: 14.20.0 (2021-12-22)

# Preview release: 15.0.0 (2021-12-22)

# Repository (with cloud support): GitHub repository, available on various cloud platforms such as Amazon Web Services, Google Cloud, Microsoft Azure, and Heroku.

# Written in: C++, JavaScript

# Operating System support: Windows, macOS, Linux, Unix

# Platform, portability: Cross-platform

# Available in (Total languages): English and other languages

# List of languages supported: English, German, Spanish, French, Chinese, Japanese, and more

# Type: Server-side JavaScript environment

# Website: <https://nodejs.org/>

# Features: Asynchronous and event-driven programming, Single-threaded with minimal overhead, Support for multiple programming languages, Package management through npm, Supports real-time web applications

# Size (in MB, GB etc.): Approximately 50 MB

# Privacy and Security: The security of Node.js depends on the packages and dependencies used in the application. It is recommended to regularly update and secure the packages used in the application.

# Type of software (Open source/License): Open Source, under the MIT license.

# If License- Provide details: MIT license is a permissive free software license that allows developers to use, modify, and distribute the software freely.

# Latest version: 14.20.0 (2021-12-22)

# Cloud support (Yes/No): Yes

# Applicability: Node.js is best suited for building fast, scalable, and real-time web applications such as online gaming, instant messaging, and real-time data processing.

# Drawbacks (if any): Single-threaded architecture can limit the performance for applications with CPU-intensive tasks. It may also not be suitable for applications that require a large amount of memory. In some cases, packages used in the application may have security vulnerabilities which can pose a threat to the application's security.

Top of Form

II.Github

# Original author: Tom Preston-Werner, Chris Wanstrath, and PJ Hyett

# Developers: GitHub, Inc.

# Initial release: April 7, 2008

# Stable release: Continuously updated

# Preview release: Continuously updated

# Repository (with cloud support): GitHub, available as a web-based platform and as a desktop application with cloud support through various platforms such as Microsoft Azure, Amazon Web Services, and Google Cloud.

# Written in: Ruby on Rails, Erlang, JavaScript, and C

# Operating System support: Web-based, cross-platform desktop application for Windows and macOS.

# Platform, portability: Cross-platform

# Available in (Total languages): English and other languages

# List of languages supported: English, German, Spanish, French, Chinese, Japanese, and more

# Type: Web-based Git repository hosting service

# Website: <https://github.com/>

# Features: Version control, issue tracking, pull request management, wikis, project management, and collaboration tools.

# Size (in MB, GB etc.): Does not apply, as it is a web-based service

# Privacy and Security: GitHub follows industry standard security practices and regularly updates its security measures. Privacy options allow users to control the visibility of their repositories and information.

# Type of software (Open source/License): Mostly proprietary with some open-source offerings.

# If License- Provide details: GitHub's core features are proprietary, while some extensions and integrations are open-source and licensed under various open-source licenses such as the MIT License and Apache License 2.0.

# Latest version: Continuously updated

# Cloud support (Yes/No): Yes

# Applicability: GitHub is primarily used for software development and version control. It is used by individuals, teams, and organizations for hosting open-source and private projects.

# Drawbacks (if any): Some features, such as private repository hosting, require a paid subscription. Users must also have a strong understanding of Git and version control to effectively use GitHub. In some cases, there may be privacy and security concerns with hosting sensitive information on a third-party platform

III.React

# Original author: Jordan Walke, a software engineer at Facebook

# Developers: Facebook, Inc. and a large community of individual contributors

# Initial release: March 2013

# Stable release: Continuously updated

# Preview release: Continuously updated

# Repository (with cloud support): GitHub, available with cloud support through various platforms such as Microsoft Azure, Amazon Web Services, and Google Cloud.

# Written in: JavaScript and JSX

# Operating System support: Cross-platform

# Platform, portability: Cross-platform

# Available in (Total languages): English and other languages

# List of languages supported: English, German, Spanish, French, Chinese, Japanese, and more

# Type: JavaScript library for building user interfaces

# Website: <https://reactjs.org/>

# Features: Reactive and composable components, virtual DOM, server-side rendering, efficient updates and rendering, and a large ecosystem of third-party libraries and tools.

# Size (in MB, GB etc.): Approximately 100 KB gzipped

# Privacy and Security: React follows industry standard security practices and regularly updates its security measures. Privacy options allow developers to control the data used in their React applications.

# Type of software (Open source/License): Open-source, licensed under the MIT License

# If License- Provide details: React is licensed under the MIT License, which allows for the use of React in both commercial and open-source projects.

# Latest version: Continuously updated

# Cloud support (Yes/No): Yes

# Applicability: React is primarily used for building user interfaces and single-page applications. It is used by individuals, teams, and organizations for both open-source and commercial projects.

# Drawbacks (if any): React has a steep learning curve and requires a strong understanding of JavaScript and its ecosystem. In some cases, the use of third-party libraries may lead to increased complexity and potential security concerns. The use of JSX, a syntax extension for JavaScript, may also present a barrier to entry for some developers.

Top of Form

Q2.Implement linear regression problem using Google colab (Perform preprocessing, training and testing) Node.Js , Android SDK , Dot Net, Ruby on Rails, Anaconda,Eclipse Use any of one following appropriate dataset.

# Load the data into a pandas DataFrame

df = pd.read\_csv(r"C:\Users\Dell\Downloads\Bike-Sharing-Dataset\day.csv") Bottom of Form

# X=df.weekday

# X=df.temp

X=df.mnth

y = df['cnt']

import numpy as np

X = np.array(X)

y = np.array(y)

X=X.reshape(-1, 1);

y=y.reshape(-1, 1);

# Split the data into training and test sets

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=0)

# Train the linear regression model

regressor = LinearRegression()

regressor.fit(X\_train, y\_train)

# Make predictions on the test set

y\_pred = regressor.predict(X\_test)

import matplotlib.pyplot as plt

import numpy as np

# Assume that you have already fit a linear regression model

# Generate a range of x values for plotting

x\_range = np.linspace(np.min(x), np.max(x), 100)

# Use the model to predict y values for the x range

# y\_pred = model.predict(x\_range.reshape(-1, 1))

# Plot the original data points

plt.scatter(X, y, color='blue')

# Plot the regression line

plt.plot(X\_test, y\_pred, color='red')

# Add labels and title

plt.xlabel("X")

plt.ylabel("Y")

plt.title("Linear Regression Results")

# Show the plot

plt.show()





