VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI

A R PROGRAMMING MICRO PROJECT REPORT ON

EXPLORATORY DATA ANALYSIS OF DEMOGRAPHIC AND ECONOMIC TRENDS

IN

COMPUTER SCIENCE AND DESIGN

By

ABAYCHANDRASURYA J K	4AL22CG001
SHRUTHI N	4AL22CG054
PRIYANKA I SAKHARE	4AL22CG047
RASHMI M	4AL22CG049

Under the Guidance of

Dr. Shivaprasad B J

Associate Professor

ALVA'S

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DEPARTMENT OF COMPUTER SCIENCE & DESIGN

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MOODBIDRI-574225, KARNATAKA

2023-2024

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJAR, MOODBIDRI, D.K. -574225

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CERTIFICATE

This is to certify that the Micro Project entitled **"EXPLORATORY DATA ANALYSIS OF DEMOGRAPHIC AND ECONOMIC TRENDS"** has been successfully completed by

ABAYCHANDRASURYA J K	4AL22CG001
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the bonafide students of **Department of Computer Science & Design, Alva's Institute of Engineering and Technology** in **DEPARTMENT OF COMPUTER SCIENCE & DESIGN** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Micro project report has been approved as it satisfies the academic requirements in respect of Micro Project work prescribed for the Bachelor of Engineering Degree.

H/05/24

Dr. Shivaprasad B J
Micro Project Guide

Mr. Jayanthkumar A. Rathod
HOD CSD

EXTERNAL VIVA

Name of the Examiners	Signature with Date
1.	
2.	

ABSTRACT

In this project, we leverage R programming to conduct exploratory data analysis and visualization on demographic and economic data. The dataset, sourced from an Excel file, contains information on Birthrate, Internet users, and Income Group for numerous countries. Our goal is to delve into this data and uncover insights regarding global demographic and economic trends. Through the use of histograms, we visually represent the distributions of Birthrate and Internet users across the countries in our dataset. Additionally, we employ a bar graph to elucidate the distribution of countries among various Income Groups. These visualizations provide a comprehensive overview of the demographic and economic landscape, offering valuable insights into regional disparities and developmental trends. By harnessing R's data visualization capabilities, we facilitate the interpretation of complex datasets, enabling stakeholders to make informed decisions and identify areas for further analysis or intervention. This project underscores the power of R in transforming raw data into actionable insights, thereby contributing to our understanding of global demographics and economics.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI

A R PROGRAMMING MICRO PROJECT REPORT ON

BANK MANAGEMENT SYSTEM

IN

COMPUTER SCIENCE AND DESIGN

By

ANVESH A SHETTY	4AL22CG004
APEKSHA K	4AL22CG005
HITHASHREE	4AL22CG023
RAKSHITHA	4AL22CG048
SNEHA S	4AL22CG056

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CERTIFICATE

This is to certify that the Micro Project entitled **"BANK MANAGEMENT SYSTEM"** has been successfully completed by

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Dr. Shivaprasad B J
Micro Project Guide

Mr. Jayanth Kumar A. Rathod
HOD CSD

EXTERNAL VIVA

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ABSTRACT

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R PROGRAMMING MINI PROJECT REPORT ON

EXPLORATOTY DATA ANALYSIS OF STUDENT SLEEP DATA

IN

COMPUTER SCIENCE & DESIGN ENGINEERING

By

DHANRAJ S H	:	4AL22CG014
NAVEEN HIREMATH	:	4AL22CG034
DARSHAN R SHETTY	:	4AL22CG015
JAGADISH GOWDA	:	4AL22CG024
NIKITH NAIK	:	4AL22CG035
FAHAD UMER FAROOQ	:	4AL22CG018

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CERTIFICATE

This is to certify that the R programming Mini Project entitled **"Exploratory Data Analysis of Students Sleep Data"** has been successfully completed by

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Dr. Shivprasad B J
Mini Project Guide

Mr. Jayanth Kumar A. Rathod
HOD CSD

EXTERNAL VIVA

Name of the Examiners	Signature with Date
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ABSTRACT

The project describes the agriculture database management system. The report will help you to know in deep the actual work that has been done as a team work. The agricultural database management system provides its users and researches to get online information about, the crop, statistical details and new tendencies. The trends of the crops act so that these will be pretty important to the users who access these via the Internet. The main features of the database management system includes information retrieval facilities for users from anywhere in the form of obtaining statistical information about fertilizer, pesticides, plough method, diseases suitable for the corresponding crops. In addition this provides individual information about Intercrops related to main crops. The system allows the retrieving facilities but also the updating facilities to the authorized persons in the corresponding organization. The agricultural database management system can be maintained by the four organizations all over the world. They will be able to use this via Internet. Admin will have their own username and passwords whereas users can access this with their own unique entity.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R PROGRAMMING MINI PROJECT REPORT ON

Exploratory Data Analysis and Customer Segmentation in a Mall: A Comprehensive R Programming Approach

IN

COMPUTER SCIENCE AND DESIGN

By

DHANYASHREE	4AL22CG016
KATHANIKA MOGERAYA	4AL22CG026
SHAYANASHREE N	4AL22CG053

UNDER THE GUIDANCE OF

Dr . Shivaprasad D J

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This is to certify that the R Progrraming Mini Project entitled "Exploratory Data Analysis and Customer Segmentation in a Mall: A Comprehensive R Programming Approach" has been successfully completed by

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BELAGAVI during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

Dr . Shivaprasad D J	**Mr . JayanthKumar A. Rathod**
Mini Project Guide	**HOD CSD**

EXTERNAL VIVA

Name of the Examiners	**Signature with Date**
1.	

ABSTARCT

This mini project employs the R programming language to conduct an in-depth analysis of a mall dataset, focusing on exploratory data analysis (EDA) and customer segmentation. The project begins with the extraction and preprocessing of a large dataset containing information on mall customers. The exploratory data analysis encompasses a thorough examination of customer demographics, annual income, and spending scores, utilizing statistical measures and visualizations.

The data visualization section employs various techniques, such as bar plots, pie charts, histograms, and box plots, to illustrate patterns and trends in customer gender distribution, age distribution, and annual income. Additionally, scatter plots and line graphs depict the relationship between annual income and spending scores.

Furthermore, the project delves into customer segmentation using the K-Means clustering algorithm, exploring different cluster solutions and evaluating their effectiveness. The results provide valuable insights into distinct customer segments based on their annual income and spending behaviors.

The mini project concludes with a comparative analysis of clustering techniques, emphasizing the practical implications of the findings. This comprehensive exploration showcases the power of R programming for extracting meaningful insights from large datasets and informing strategic decision-making in a mall setting.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI

R PROGRAMMING MINI PROJECT REPORT ON

EXPLORATORY DATA ANALYSIS OF SPEED AND STOPPING DISTANCE OF CARS

IN

COMPUTER SCIENCE AND DESIGN

By

DARSHAN HALAKERIMATH	4AL22CG011
CHANDRASHEKAR	4AL22CG008
PRADEEP NAIK	4AL22CG044
HEMANTH GOUDA	4AL22CG022
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This is to certify that the Mini Project entitled **"EXPLORATORY DATA ANALYSIS OF SPEED AND STOPPING DISTANCE OF CARS"** has been successfully completed by

DARSHAN HALAKERIMATH	**4AL22CG011**
CHANDRASHEKAR	**4AL22CG008**
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Dr. Shivaprasad B J
Mini Project Guide

Mr. JayanthKumar A. Rathod
HOD CSD

EXTERNAL VIVA

Name of the Examiners	Signature with Date
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2.	

ABSTRACT

In this project, we leverage R programming to conduct exploratory data analysis and visualization on demographic and economic data. The dataset, sourced from an Excel file, contains information on Birthrate, Internet users, and Income Group for numerous countries. Our goal is to delve into this data and uncover insights regarding global demographic and economic trends. Through the use of histograms, we visually represent the distributions of Birthrate and Internet users across the countries in our dataset. Additionally, we employ a bar graph to elucidate the distribution of countries among various Income Groups. These visualizations provide a comprehensive overview of the demographic and economic landscape, offering valuable insights into regional disparities and developmental trends. By harnessing R's data visualization capabilities, we facilitate the interpretation of complex datasets, enabling stakeholders to make informed decisions and identify areas for further analysis or intervention. This project underscores the power of R in transforming raw data into actionable insights, thereby contributing to our understanding of global demographics and economics.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

R MINI PROJECT REPORT ON

TELECOM BILLING SYSTEM

IN

COMPUTER SCIENCE AND DESIGN ENGINEERING

By

GOUSIYA G	4AL22CG020
DARSHAN S GOWDA	4AL22CG013
KARTIK M	4AL22CG025
NAGARAJ DADI	4AL22CG033
ASHWINI B	4AL22CG006

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This is to certify that the R Mini Project entitled "TELECOM BILLING SYSTEM" has been successfully completed by

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11/03/24

Dr. Shivaprasad D J
Mini Project Guide

Mr. Jayanth Kumar A. Rathod
HOD CSD

ABSTRACT

The project describes the telecom billing system .The report will help you to know in deep the actual work that has been done as a team work. The telecom billing system system provides its users and researches to get online information about, the billing, statistical details and new tendencies. The trends of the billing act so that these will be pretty important to the users who access these via the Internet.

The main features of the telecome billing system includes information retrieval facilities for users from anywhere in the form of obtaining statistical information about billing and suitable for the corresponding totals. In addition this provides individual information about billing related to different billing systems.

The system allows the retrieving facilities but also the updating facilities to the authorized persons in the corresponding organization. The telecom billing system can be maintained by the four organizations all over the world. They will be able to use this via Internet. Admin will have their own username and passwords whereas users can access this with their own unique entity.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R MINI PROJECT REPORT ON

MOVIE RECOMMENDATION SYSTEM

IN

COMPUTER SCIENCE & DESIGN ENGINEERING

By

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PREMKUMAR INGALE	4AL22CG045
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This is to certify that the R Mini Project entitled **"MOVIE RECOMMENDATION SYSTEM"** has been successfully completed by

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11/03/24

Dr. SHIVPRASAD B J
Mini Project Guide

Mr. Jayanth Kumar A. Rathod
HOD CSD

ABSTRACT

The project describes the Movie Recommendation System . The report will help you to know in deep the actual work that has been done as a team work. This mini-project presents the development of a movie recommendation system using the R programming language. With the proliferation of digital media platforms, the need for effective recommendation systems to assist users in discovering relevant content has become increasingly evident. The system's architecture encompasses data collection, processing, and recommendation generation stages. R's extensive libraries and packages, such as dplyr and recommender lab, are utilized for data manipulation and recommendation algorithm implementation. Various recommendation techniques including collaborative filtering, content-based filtering, and hybrid methods are explored and implemented to enhance the system's accuracy and user satisfaction. Through this project, insights into the challenges and opportunities in building recommendation systems using R are gained, paving the way for further exploration and innovation in the field..

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R MINI PROJECT REPORT ON

MOVIE RECOMMENDATION SYSTEM

IN

COMPUTER SCIENCE & DESIGN ENGINEERING

By

KOMAL.KA LIKAR 4AL22CG028
BIBIFATIMA 4AL22CG007
DHANUSHREE 4AL22CG015

Under the Guidance of

Dr. SHIVPRASAD BJ

Associate Professor

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2023 – 2024

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CERTIFICATE

This is to certify that the R Mini Project entitled "MOVIE RECOMMENDATION SYSTEM" has been successfully completed by

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DHANUSHREE	4AL22CG015

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Mini Project Guide

Mr. JayanthKumar A. Rathod
HOD CSD

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R PROGRAMMING REPORT ON

NUMBER SYSTEM CONVERSION

IN

COMPUTER SCIENCE & DESIGN

By

PAVAN RAJ	4AL22CG039
MANJUNATH	4AL22CG030
CHIDVILAS N	4AL22CG010
MAHAMMED ASIM	4AL22CG029
MOHAMMED IRFAN	4AL22CG031

Under the Guidance of

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DEPARTMENT OF COMPUTER SCIENCE & DESIGN

CERTIFICATE

This is to certify that the Mini Project entitled "**NUMBER SYSTEM CONVERSION**" has been successfully completed by

MANJUNATH	**4AL22CG030**
MOHAMMED IRFAN	**4AL22CG031**
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Dr. Shivaprasad B J
Mini Project Guide

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EXTERNAL VIVA

Name of the Examiners	Signature with Date
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ABSTRACT

In this mini project, we delve into the world of number system conversions using the versatile capabilities of R programming language. The project aims to provide a comprehensive understanding of how to convert numbers between decimal, binary, octal, and hexadecimal representations efficiently.

The project begins by introducing the fundamental concepts of number systems and their importance in various computational tasks. It discusses the binary, octal, decimal,and hexadecimal systems, highlighting their respective bases and representations.

Subsequently, the project explores the implementation of number system conversions in R programming. It demonstrates the use of built-in functions and techniques to convert numbers from one system to another. Examples include converting decimal numbers to binary, octal, and hexadecimal formats, as well as vice versa.

Moreover, the project provides insights into the practical applications of number system conversions. It discusses scenarios where such conversions are essential, such as in computer programming, digital electronics, and cryptography.

Throughout the project, emphasis is placed on hands-on learning, with code snippets and demonstrations provided to facilitate understanding. Additionally, the project encourages experimentation and exploration, inviting learners to manipulate and analyze different number systems using R programming..

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R PROGRAMMING MINI PROJECT REPORT ON

Analyses The Relationships between Various CPU Specifications with Multiple Linear Regression Models using R PROGRAMMING

IN

COMPUTER SCIENCE AND DESIGN

By

POOJARI SURAKSHA	4AL22CG041
VAISHNAVI	4AL22CG062
POONAM NAIR	4AL22CG041
SNEHA D GOUDA	4AL22CG055
NIRIKSHA RAI	4AL22CG036

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MOODBIDRI-574225, KARNATAKA 2023-2024

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This is to certify that the Mini Project entitled **"Analyses The Relationships between Various CPU Specifications"** has been successfully completed by

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Mr. Jayanth Kumar A. Rathod
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EXTERNAL VIVA

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ABSTRACT

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R PROGRAM MINI PROJECT REPORT ON

IN

UBER DATA ANALYSIS IN R

COMPUTER SCIENCE & DESIGN ENGINEERING

By

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Sanika Gowda N S	4AL22CG051
Khushi Shetty	4AL22CG027
Priya Wadavadagi	4AL22CG046
Mounashree D P	4AL22CG032
Drushya Hegde	4AL22CG017

Under the Guidance of

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CERTIFICATE

This is to certify that the DBMS Mini Project entitled **"UBER DATA ANALYSIS IN R"** has been successfully completed by

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Sanika Gowda N S	**4AL22CG051**
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the bonafide students of **Department of Computer Science & design Engineering, Alva's Institute of Engineering and Technology** in **DEPARTMENT OF COMPUTER SCIENCE & DESIGN ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2018–2019. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

Dr .Shivaprasad B J
Mini Project Guide

Mr. JayanthKumar A. Rathod
HOD ~~ISE~~ CSD

EXTERNAL VIVA

Name of the Examiners	Signature with Date
1.	

ABSTRACT

The project describes the agriculture database management system.The report will help you to know in deep the actual work that has been done as a team work. The agricultural database management system provides its users and researches to get online information about, the crop, statistical details and new tendencies. The trends of the crops act so that these will be pretty important to the users who access these via the Internet. The main features of the database management system includes information retrieval facilities for users from anywhere in the form of obtaining statistical information about fertilizer, pesticides, plough method, diseases suitable for the corresponding crops. In addition this provides individual information about Intercrops related to main crops. The system allows the retrieving facilities but also the updating facilities to the authorized persons in the corresponding organization.The agricultural database management system can be maintained by the four organizations all over the world. They will be able to use this via Internet. Admin will have their own username and passwords whereas users can access this with their own unique entity.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A R PROGRAMMING MINI PROJECT REPORT ON

UBER DATA ANALYSIS

IN

COMPUTER SCIENCE AND DESIGN

By

THANVI S SANIL 4AL22CG060

SOWJANYA S 4AL22CG057

Under the Guidance of

Dr. Shivaprasad B J

Associate Professor

ALVA'S

DEPARTMENT OF COMPUTER SCIENCE & DESIGN

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MOODBIDRI-574225, KARNATAKA 2023-2024

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJAR, MOODBIDRI, D.K. -574225

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DEPARTMENT OF COMPUTER SCIENCE & DESIGN

CERTIFICATE

This is to certify that the Mini Project entitled **"UBER DATA ANALYSIS"** has been successfully completed by

THANVI S SANIL	**4AL22CG060**
SOWJANYA S	**4AL22CG057**

the bonafide students of **Department of Computer Science & Design, Alva's Institute of Engineering and Technology** in **DEPARTMENT OF COMPUTER SCIENCE & DESIGN** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

Dr. Shivaprasad B J
Mini Project Guide

Mr. Jayanth Kumar A. Rathod
HOD CSD

EXTERNAL VIVA

Name of the Examiners	Signature with Date
1.	
2.	

ABSTRACT

This project presents a comprehensive analysis of Uber's transportation service through the exploration of publicly available trip data. The objective is to gain insights into user behavior, temporal patterns, and geographical distribution, ultimately providing a deeper understanding of the dynamics within the Uber ecosystem. The study encompasses data cleaning, exploratory data analysis, temporal and geospatial analysis, user behavior examination, and, optionally, predictive modeling. Key findings reveal peak hours, popular pick-up and drop-off locations, and correlations between factors such as income levels and Uber usage. The analysis not only enhances our understanding of the transportation patterns facilitated by Uber but also showcases the versatility of R programming for in-depth data exploration and visualization. The documentation includes code snippets, visualizations, and interpretations, providing a comprehensive resource for those interested in the intricacies of Uber's operational processes.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI

A R PROGRAMMING MINI PROJECT REPORT ON

EXPLORATORY DATA ANALYSIS OF DEMOGRAPHIC AND ECONOMIC TRENDS

IN

COMPUTER SCIENCE AND DESIGN

By

THIRUMALA	4AL22CG061
SURAJ	4AL22CG058
GANESH	4AL22CG019
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CERTIFICATE

This is to certify that the Mini Project entitled **"EXPLORATORY DATA ANALYSIS OF SHIP ACCIDENTS "** has been successfully completed by

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EXTERNAL VIVA

Name of the Examiners	Signature with Date
1.	
2.	

ABSTRACT

In this project, we leverage R programming to conduct exploratory data analysis and visualization on demographic and economic data. The dataset, sourced from an Excel file, contains information on Birthrate, Internet users, and Income Group for numerous countries. Our goal is to delve into this data and uncover insights regarding global demographic and economic trends. Through the use of histograms, we visually represent the distributions of Birthrate and Internet users across the countries in our dataset. Additionally, we employ a bar graph to elucidate the distribution of countries among various Income Groups. These visualizations provide a comprehensive overview of the demographic and economic landscape, offering valuable insights into regional disparities and developmental trends. By harnessing R's data visualization capabilities, we facilitate the interpretation of complex datasets, enabling stakeholders to make informed decisions and identify areas for further analysis or intervention. This project underscores the power of R in transforming raw data into actionable insights, thereby contributing to our understanding of global demographics and economics.