IP PROJECT

[Reading Across Campuses: Genre and Habits]

R.R. MORARKA PUBLIC SCHOOL

SESSION – 2024-25

[Reading Across Campuses: Genre and Habits]

SUBMITTED TO:

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IP Teacher

R.R. Morarka Public School

SUBMITTED BY:

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CERTIFICATE

This is to certify that the project titled **'Reading Across Campuses: Genre and Habits'** has been successfully completed by **Akshita Rajput** of **Class 12 Science** as part of the curriculum requirements for Informatics Practices (IP) in the academic session 2024-25.

The project embodies the student's diligent efforts, creativity, and application of concepts learned during the course. It has been evaluated and found to be a commendable work that meets the prescribed standards.

I wish the student all the best for their future endeavors.

Signature: _____

Mr. Ankur Singhania
IP Teacher
R.R. Morarka Public School

ACKN0WLEDGEMENT

I would like to express my heartfelt gratitude to **Mr. Ankur Singhania**, our IP teacher, for his invaluable guidance, constant encouragement, and constructive feedback throughout the course of this project. His expertise and insights have been a source of inspiration and have played a crucial role in shaping the direction and success of our work.

Furthermore, I would like to acknowledge and thank everyone who provided advice and support during this journey. Their suggestions and inputs helped me refine my ideas and approach, ultimately contributing to the overall quality of the project.

Together, with the guidance of my teacher and the collective effort of advisors, I have achieved a result that I can all be proud of.

Thank you all for being part of this rewarding experience!

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INTRODUCTION

ABOUT THIS PROJECT:

With the help of my project reading across campuses genre preferences and habits I have tried easy representation and analysis of reading preferences and habits students of Ankara University and Erciyes University through different craft status and many more a project have four major topics:

- Reading preferences of students of Ankara University
- Reading preferences of students of Erciyes University
- Reading habits of students of Ankara University
- Reading habits of students of Erciyes University

Csv files have been maintained for each topic I have used the Python programming language to build this project the major six features of our project are:

- Fetching data from csv
- Data statistics
- Insertion of new data
- Updation of data
- Deletion of data
- Data visualization

REQUIREMENTS

Hardware Requirements:

1. **Computer System**
    - Processor: Intel i5/i7 or equivalent
    - RAM: 8 GB (minimum)
    - Hard Disk: 256 GB SSD or higher
    - Monitor: 15-inch or larger
2. **Printer** (optional, for printing project)

Software Requirements:

1. **Operating System**:
    - Windows 10/11 or any compatible OS
2. **Programming Software**:
    - Python 3.x (e.g., Python 3.10)
    - IDE: PyCharm, VS Code, or Jupyter Notebook
3. **Libraries and Frameworks**:
    - pandas
    - matplotlib
    - numpy
    - csv (built-in Python library)
4. **Documentation Tools**:
    - Microsoft Word or Google Docs for creating project
    - Microsoft Excel for data analysis
5. **Additional Tools**:
    - PDF Reader for viewing pdfs
    - Browser (e.g., Chrome, Firefox) for research

CSV TABLES

1)Genre preferences of students of Ankara University

	A	B	C
1	GENRE	NUMBER OF STUDENTS	PERCENTAGE
2	literary works	152	13.18
3	historic	94	8.15
4	romantic	87	7.55
5	comedy	99	8.59
6	psychology	88	7.63
7	personal development	69	5.98
8	politics	63	5.46
9	adventure	56	4.89
10	religious	52	4.51
11	crime Novel	56	4.86
12	culure arts	49	4.25
13	science fiction	47	4.08
14	education	57	4.94
15	philosophy	56	4.86
16	horror	36	3.12
17	professional	35	3.04
18	essay	39	3.38

2)Genre preferences of students of Erciyes University

	A	B	C
1	GENRE	NUMBER OF STUDENTS	PERCENTAGE
2	literary works	57	13.07
3	historic	81	18.58
4	romantic	37	8.49
5	comedy	23	5.28
6	psychology	18	4.13
7	personal development	26	5.96
8	politics	32	7.34
9	adventure	24	5.5
10	religious	27	6.19
11	crime Novel	17	3.9
12	culure arts	21	4.82
13	science fiction	23	5.28
14	education	11	2.52
15	philosophy	8	1.83
16	horror	16	3.67
17	professional	5	1.15
18	essay	4	0.92

3)Reading Habits of students of Ankara University

	A	B	C
1	FREQUENCY OF READING	NUMBER OF STUDENTS	PERCENTAGE
2	never read	11	4.89
3	one or less book within two months	70	31.11
4	one book a month	99	44
5	two or more books a month	45	20

	A	B	C
1	FREQUENCY OF READING	NUMBER OF STUDENTS	PERCENTAGE
2	never read	9	8.91
3	one or less book within two months	29	28.71
4	one book a month	41	40.59
5	two or more books a month	22	21.78

CODE

```
import pandas as pd
import matplotlib.pyplot as plt

# Load CSV files
ankara = pd.read_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\ankara.csv")
erciyes = pd.read_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\erciyes.csv")
frequency_a = pd.read_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\frecuency_a.csv")
frequency_e = pd.read_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\frequency_e.csv")

# Save function to overwrite CSV files after modification
def save_data():
    ankara.to_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\ankara.csv", index=False)
    erciyes.to_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\erciyes.csv", index=False)
    frequency_a.to_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\frecuency_a.csv", index=False)
    frequency_e.to_csv("C:\\Users\\amitv\\OneDrive\\Desktop\\spyder\\frequency_e.csv", index=False)


# MAIN MENU
while True:
    print("Main Menu")
    print("1 - Fetch Data")
    print("2 - Data Statistics")
    print("3 - Insert Record")
    print("4 - Update Record")
    print("5 - Delete Record")
    print("6 - Data Visualization")
    print("7 - To Exit")

    A = int(input("Enter Your Choice- "))

    # FETCH DATA
    if A == 1:
        while True:
            print("a - To View Genre Students Prefer in Ankara University")
            print("b - To View Genre Students Prefer in Erciyes University")
            print("c - To View Reading Frequency in Ankara University")
            print("d - To View Reading Frequency in Erciyes University")
            print("e - To Exit")
            N = input("Enter Your Choice- ")
```

```
        if N == "a":
            print(ankara)

        elif N == "b":
            print(erciyes)

        elif N == "c":
            print(frequency_a)

        elif N == "d":
            print(frequency_e)

        elif N == "e":
            break

        else:
            print("Invalid choice. Please try again.")


#VIEW STATISTICS
elif A==2:
    while(True):
        print("a - To view statistics of Genre Students Prefer in Ankara University")
        print("b - To view statistics of Genre Students Prefer in Erciyes University")
        print("c - To view statistics of Reading Frequency in Ankara University")
        print("d - To view statistics of Reading Frequency in Erciyes University")
        print("e - To Exit")
        N = input("Enter Your Choice- ")

        if N=="a":
            print("1 - To View Transpose")
            print("2 - Display All Columns Name")
            print("3 - Display Indexes")
            print("4 - Display Shape")
            print("5 - Display Dimensions")
            print("6 - Display Data Type of All Columns")
            print("7 - Display Size")
            print("8 - Display Top 5 Records")
            print("9 - Display Bottom 5 Records")
            print("10 - To View Specific no. of Records From Top")
```

```
            print("11 - To View Specific no. of Records From Bottom")
            print("12 - To View Details of Specific Genre")
            print("0 - To Exit")
            n=int(input("Enter Your Choice- "))

            if n==1:
                print(ankara.T)
            elif n==2:
                print(ankara.columns)
            elif n==3:
                print(ankara.index)
            elif n==4:
                print(ankara.shape)
            elif n==5:
                print(ankara.ndim)
            elif n==6:
                print(ankara.dtypes)
            elif n==7:
                print(ankara.size)
            elif n==8:
                print(ankara.head())
            elif n==9:
                print(ankara.tail())
            elif n==10:
                p=int(input("Enter how many records you want to display from the top- "))
                print(ankara.head(p))
            elif n==11:
                q = int(input("Enter how many records you want to display from the bottom- "))
                print(ankara.tail(q))
            elif n==12:
                S = input("Enter the Genre name of which you want to see the details- ")
                d = ankara.loc[ankara['GENRE']==S]
                print(d)
            elif n==0:
                break
            else:
                print("Invalid choice. Please try again.")

        elif N=='b':
            print("1 - To View Transpose")
            print('2 - Display All Columns Name')
```

```
print("3 - Display Indexes")
print("4 - Display Shape")
print("5 - Display Dimensions")
print("6 - Display Data Type of All Columns")
print("7 - Display Size")
print("8 - Display Top 5 Records")
print("9 - Display Bottom 5 Records")
print("10 - To View Specific no. of Records From Top")
print("11 - To View Specific no. of Records From Bottom")
print("12 - To View Details of Specific genre")
print("0 - To Exit")
n=int(input("Enter Your Choice- "))

if n==1:
    print(erciyes.T)
elif n==2:
    print(erciyes.columns)
elif n==3:
    print(erciyes.index)
elif n==4:
    print(erciyes.shape)
elif n==5:
    print(erciyes.ndim)
elif n==6:
    print(erciyes.dtypes)
elif n==7:
    print(erciyes.size)
elif n==8:
    print(erciyes.head())
elif n==9:
    print(erciyes.tail())
elif n==10:
    p=int(input("Enter how many records you want to display from the top- "))
    print(erciyes.head(p))
elif n==11:
    q = int(input("Enter how many records you want to display from the bottom- "))
    print(erciyes.tail(q))
elif n==12:
    S = input("Enter The Genre Name of Which You Want to See The Details- ")
    d = erciyes.loc[erciyes["GENRE"]==S]
    print(d)
```

```
            elif n==0:
                break
            else:
                print("Invalid choice. Please try again.")

        elif N=="c":
            print("1 - To View Transpose")
            print("2 - Display All Columns Name")
            print("3 - Display Indexes")
            print("4 - Display Shape")
            print("5 - Display Dimensions")
            print("6 - Display Data Type of All Columns")
            print("7 - Display Size")
            print("8 - Display Top 2 Records")
            print("9 - Display Bottom 2 Records")
            print("10 - To View Specific no. of Records From Top")
            print("11 - To View Specific no. of Records From Bottom")
            print("12 - To View Details of Specific Reading Habit")
            print("0 -  To Exit")
            n=int(input("Enter Your Choice- "))

            if n==1:
                print(frequency_a.T)
            elif n==2:
                print(frequency_a.columns)
            elif n==3:
                print(frequency_a.index)
            elif n==4:
                print(frequency_a.shape)
            elif n==5:
                print(frequency_a.ndim)
            elif n==6:
              print(frequency_a.dtypes)
            elif n==7:
              print(frequency_a.size)
            elif n==8:
                print(frequency_a.head(2))
            elif n==9:
                print(frequency_a.tail(2))
            elif n==10:
```

```
            p=int(input("Enter how many records you want to display from the top- "))
            print(frequency_a.head(p))
        elif n==11:
            q = int(input("Enter how many records you want to display from the bottom- "))
            print(frequency_a.tail(q))
        elif n==12:
            S = input("Enter the Reading Frequency of which you want to see the details- ")
            d = frequency_a.loc[frequency_a["FREQUENCY OF READING"]==S]
            print(d)
        elif n==0:
            break
        else:
            print("Invalid choice. Please try again.")

    elif N=="d":
        print("1 - To View Transpose")
        print("2 - Display All Columns Name")
        print("3 - Display Indexes")
        print("4 - Display Shape")
        print("5 - Display Dimensions")
        print("6 - Display Data Type of All Columns")
        print("7 - Display Size")
        print("8 - Display Top 2 Records")
        print("9 - Display Bottom 2 Records")
        print("10 - To View Specific no. of Records From Top")
        print("11 - To View Specific no. of Records From Bottom")
        print("12 - To View Details of Specific Reading Habit")
        print("0 - To Exit")
        n=int(input("Enter Your Choice- "))

        if n==1:
            print(frequency_e.T)
        elif n==2:
            print(frequency_e.columns)
        elif n==3:
            print(frequency_e.index)
        elif n==4:
            print(frequency_e.shape)
        elif n==5:
            print(frequency_e.ndim)
```

```
            elif n==6:
                print(frequency_e.dtypes)
            elif n==7:
                print(frequency_e.size)
            elif n==8:
                print(frequency_e.head(2))
            elif n==9:
                print(frequency_e.tail(2))
            elif n==10:
                p=int(input("Enter how many records you want to display from the top- "))
                print(frequency_e.head(p))
            elif n==11:
                q = int(input("Enter how many records you want to display from the bottom- "))
                print(frequency_e.tail(q))
            elif n==12:
                S = input("Enter the Reading Frequency of which you want to see the details- ")
                d = frequency_e.loc[frequency_e["FREQUENCY OF READING"]==S]
                print(d)
            elif n==0:
                break
            else:
                print("Invalid choice. Please try again.")

        elif N =="e":
            break

        else:
            print("Invalid choice. Please try again.")

# INSERT RECORD
elif A == 3:
    while True:
        print("a - Insert into Ankara University")
        print("b - Insert into Erciyes University")
        print("c - Insert into Reading Frequency for Ankara")
        print("d - Insert into Reading Frequency for Erciyes")
        print("e - To Exit")
        N = input("Enter Your Choice- ")

        if N == "a":
```

```
        print(ankara)
        sno = int(input("Enter the s.no. after the existing record- "))
        new_genre = input("Enter new Genre- ")
        new_students = int(input("Enter new Number of Students- "))
        new_percentage = float(input("Enter new Percentage- "))
        ankara.loc[sno]=[new_genre, new_students, new_percentage]
        save_data()
        print(ankara)
        print("Record inserted successfully.")

    elif N == 'b':
        print(erciyes)
        sno = int(input("Enter the s.no. after the existing record- "))
        new_genre = input("Enter new Genre- ")
        new_students = int(input("Enter new Number of Students- "))
        new_percentage = float(input("Enter new Percentage- "))
        erciyes.loc[sno]=[new_genre, new_students, new_percentage]
        save_data()
        print(erciyes)
        print("Record inserted successfully.")

    elif N == 'c':
        print(frequency_a)
        sno = int(input("Enter the s.no. after the existing record- "))
        new_freq = input("Enter Frequency of Reading- ")
        new_students = int(input("Enter Number of Students- "))
        new_percentage = float(input("Enter Percentage- "))
        frequency_a.loc[sno]=[new_freq, new_students, new_percentage]
        save_data()
        print(frequency_a)
        print("Record inserted successfully.")

    elif N == 'd':
        print(frequency_e)
        sno = int(input("Enter the s.no. after the existing record- "))
        new_freq = input("Enter Frequency of Reading- ")
        new_students = int(input("Enter Number of Students- "))
        new_percentage = float(input("Enter Percentage- "))
        frequency_e.loc[sno]=[new_freq, new_students, new_percentage]
        save_data()
```

```
            print(frequency_e)
            print("Record inserted successfully.")

        elif N == 'e':
            break

        else:
            print("Invalid choice. Please try again.")


# UPDATE RECORD
elif A == 4:
    while True:
        print("a - Update Ankara University")
        print("b - Update Erciyes University")
        print("c - Update Reading Frequency for Ankara")
        print("d - Update Reading Frequency for Erciyes")
        print("e - To Exit")
        N = input("Enter Your Choice- ")

        if N == 'a':
            print(ankara)
            sno = int(input("Enter the s.no. of which you want to update record- "))
            if sno in ankara.index:
                genre = input("Enter new Genre- ")
                new_students = int(input("Enter new Number of Students- "))
                new_percentage = float(input("Enter new Percentage- "))
                ankara.loc[sno]=[genre, new_students, new_percentage]
                save_data()
                print(ankara)
                print("Record updated successfully.")
            else:
                print("Invalid s.no. Please try again.")

        elif N == 'b':
            print(erciyes)
            sno = int(input("Enter the s.no. of which you want to update record- "))
            if sno in erciyes.index:
                genre = input("Enter new Genre- ")
                new_students = int(input("Enter new Number of Students- "))
```

```
            else:
                print("Frecuency not found.")

        elif N == 'd':
            print(frequency_e)
            sno = int(input("Enter the s.no. of which you want to delete record- "))
            if sno in frequency_e['FREQUENCY OF READING'].index:
                frequency_e = frequency_e.drop([sno])
                save_data()
                print(frequency_e)
                print("Record deleted successfully.")
            else:
                print("Frecuency not found.")

        elif N == 'e':
            break

        else:
            print("Invalid choice. Please try again.")


# DATA VISUALIZATION
elif A == 6:
    while True:
        print("DATA VISUALIZATION MENU")
        print("1 - Visualize Genre Preferences in Ankara University")
        print("2 - Visualize Genre Preferences in Erciyes University")
        print("3 - Visualize Reading Frequency in Ankara University")
        print("4 - Visualize Reading Frequency in Erciyes University")
        print("5 - To Exit")

        vis_choice = int(input("Enter Your Choice- "))

        if vis_choice in [1,2,3,4]:
            print("Select Visualization Type- ")
            print("1 - Bar Chart")
            print("2 - Line Chart")
            print("3 - Pie Chart")
            chart_type = int(input("Enter Your Choice- "))

            if vis choice == 1:
```

```
            data = ankara
            title = 'Genre Preferences in Ankara University'
        elif vis_choice == 2:
            data = erciyes
            title = 'Genre Preferences in Erciyes University'
        elif vis_choice == 3:
            data = frequency_a
            title = 'Reading Frequency in Ankara University'
        elif vis_choice == 4:
            data = frequency_e
            title = 'Reading Frequency in Erciyes University'

        if chart_type == 1:
            plt.figure(figsize=(10, 6))
            plt.bar(data['FREQUENCY OF READING'] if vis_choice >= 3 else data['GENRE'],
                    data['NUMBER OF STUDENTS'], color='blue' if vis_choice < 3 else 'purple')
            plt.title(title)
            plt.xlabel('Category')
            plt.ylabel('Number of Students')
            plt.xticks(rotation=45, ha='right')
            plt.show()

        elif chart_type == 2:
            plt.figure(figsize=(10, 6))
            plt.plot(data['FREQUENCY OF READING'] if vis_choice >= 3 else data['GENRE'],
                     data['NUMBER OF STUDENTS'], marker='o', color='orange')
            plt.title(title)
            plt.xlabel('Category')
            plt.ylabel('Number of Students')
            plt.xticks(rotation=45, ha='right')
            plt.show()

        elif chart_type == 3:
            plt.figure(figsize=(10, 6))
            plt.pie(data['NUMBER OF STUDENTS'], labels=data['FREQUENCY OF READING'] if
                    vis_choice >= 3 else data['GENRE'], autopct='%1.1f%%')
            plt.title(title)
            plt.axis('equal')  # Equal aspect ratio ensures that pie is drawn as a circle.
            plt.show()

        else:
```

```
                print("Invalid choice. Please try again.")

        elif vis_choice == 5:
            break

        else:
            print("Invalid choice. Please try again.")


# EXIT
 elif A == 7:
    print("Thank you for using the program.")
    break

 else:
    print("Invalid choice. Please try again.")
```

RESULT

- **FETCH DATA**

1) Genre preferences of students of Ankara University

	GENRE	NUMBER OF STUDENTS	PERCENTAGE
0	Literary Works	152	13.18
1	Historic	94	8.15
2	Romantic	87	7.55
3	Comedy	99	8.59
4	Psychology	88	7.63
5	Personal Development	69	5.98
6	Politics	63	5.46
7	Adventure	56	4.86
8	Religious	52	4.51
9	Crime Novel	56	4.86
10	Cultural Arts	49	4.25
11	Science Fiction	47	4.08
12	Education	57	4.94
13	Philosophy	56	4.86
14	Horror	36	3.12
15	Professional	35	3.04
16	Essay	39	3.38

2) Genre preferences of students of Erciyes University

	GENRE	NUMBER OF STUDENTS	PERCENTAGE
0	Literary Works	57	13.07
1	Historic	81	18.58
2	Romantic	37	8.49
3	Comedy	23	5.28
4	Psychology	18	4.13
5	Personal Development	26	5.96
6	Politics	32	7.34
7	Adventure	24	5.50
8	Religious	27	6.19
9	Crime Novel	17	3.90
10	Cultural Arts	21	4.82
11	Science Fiction	23	5.28
12	Education	11	2.52
13	Philosophy	8	1.83
14	Horror	16	3.67
15	Professional	5	1.15
16	Essay	4	0.92

3) Reading habits of students of Ankara University

	FREQUENCY OF READING	NUMBER OF STUDENTS	PERCENTAGE
0	Never Read	11	4.89
1	One or less book within two months	70	31.11
2	One book a month	99	44.00
3	Two or more books a month	45	20.00

4) Reading habits of students of Erciyes University

	FREQUENCY OF READING	NUMBER OF STUDENTS	PERCENTAGE
0	Never Read	9	8.91
1	One or less book within two months	29	28.71
2	One book a month	41	40.59
3	Two or more books a month	22	21.78

- **DATA STATISTICS**

1) Genre preferences of students of Ankara University

- *Transpose of dataframe*

	0	1	...	15	16
GENRE	Literary Works	Historic	...	Professional	Essay
NUMBER OF STUDENTS	152	94	...	35	39
PERCENTAGE	13.18	8.15	...	3.04	3.38

- *Column name of dataframe*

```
Index(['GENRE', 'NUMBER OF STUDENTS', 'PERCENTAGE'],
dtype='object')
```

- *Index name of dataframe*

```
RangeIndex(start=0, stop=17, step=1)
```

- *Shape of dataframe*

```
(17, 3)
```

- *Dimension of dataframe*

```
2
```

- *Datatype of columns of dataframe*

```
GENRE                  object
NUMBER OF STUDENTS      int64
PERCENTAGE            float64
dtype: object
```

- *Size of dataframe*

```
51
```

- *Top five records of dataframe*

	GENRE	NUMBER OF STUDENTS	PERCENTAGE
0	Literary Works	152	13.18
1	Historic	94	8.15
2	Romantic	87	7.55
3	Comedy	99	8.59
4	Psychology	88	7.63

- *Bottom five records of dataframe*

	GENRE	NUMBER OF STUDENTS	PERCENTAGE
12	Education	57	4.94
13	Philosophy	56	4.86
14	Horror	36	3.12
15	Professional	35	3.04
16	Essay	39	3.38

- *User specific top records of dataframe*

```
Enter how many records you want to display from the top- 3
            GENRE  NUMBER OF STUDENTS  PERCENTAGE
0  literary works                 152       13.18
1        historic                  94        8.15
2        romantic                  87        7.55
```

- *User specific bottom records of dataframe*

```
Enter how many records you want to display from the bottom- 3
           GENRE  NUMBER OF STUDENTS  PERCENTAGE
14        horror                  36        3.12
15  professional                  35        3.04
16         essay                  39        3.38
```

- *User specific record of dataframe*

```
Enter the Genre name of which you want to see the details- horror
    GENRE  NUMBER OF STUDENTS  PERCENTAGE
14  horror                 36        3.12
```

2) Genre preferences of students of Erciyes University

- ***Transpose of dataframe***

	0	1	...	15	16
GENRE	Literary Works	Historic	...	Professional	Essay
NUMBER OF STUDENTS	57	81	...	5	4
PERCENTAGE	13.07	18.58	...	1.15	0.92

- ***Column name of dataframe***

```
Index(['GENRE', 'NUMBER OF STUDENTS', 'PERCENTAGE'], dtype='object')
```

- ***Index name of dataframe***

```
RangeIndex(start=0, stop=17, step=1)
```

- ***Shape of dataframe***

```
(17, 3)
```

- ***Dimension of dataframe***

```
2
```

- ***Datatype of columns of dataframe***

```
GENRE                  object
NUMBER OF STUDENTS      int64
PERCENTAGE            float64
dtype: object
```

- ***Size of dataframe***

```
51
```

- ***Top five records of dataframe***

	GENRE	NUMBER OF STUDENTS	PERCENTAGE
0	Literary Works	57	13.07
1	Historic	81	18.58
2	Romantic	37	8.49
3	Comedy	23	5.28
4	Psychology	18	4.13

- *Bottom five records of dataframe*

```
            GENRE  NUMBER OF STUDENTS  PERCENTAGE
12      Education                  11        2.52
13     Philosophy                   8        1.83
14         Horror                  16        3.67
15   Professional                   5        1.15
16          Essay                   4        0.92
```

- *User specific top records of dataframe*

```
Enter how many records you want to display from the top- 3
            GENRE  NUMBER OF STUDENTS  PERCENTAGE
0   literary works                  57       13.07
1         historic                  81       18.58
2         romantic                  37        8.49
```

- *User specific bottom records of dataframe*

```
Enter how many records you want to display from the bottom- 3
           GENRE  NUMBER OF STUDENTS  PERCENTAGE
14         horror                  16        3.67
15   professional                   5        1.15
16          essay                   4        0.92
```

- *User specific record of dataframe*

```
Enter The Genre Name of Which You Want to See The Details- essay
    GENRE  NUMBER OF STUDENTS  PERCENTAGE
16  essay                   4        0.92
```

3) Reading habits of students of Ankara University

- *Transpose of dataframe*

```
                              0  ...                                3
FREQUENCY OF READING  never read  ...  two or more books a month
NUMBER OF STUDENTS            11  ...                           45
PERCENTAGE                  4.89  ...                         20.0
```

- *Column name of dataframe*

```
Index(['FREQUENCY OF READING', 'NUMBER OF STUDENTS', 'PERCENTAGE'], dtype='object')
```

- *Index name of dataframe*

```
RangeIndex(start=0, stop=4, step=1)
```

- *Shape of dataframe*

```
(4, 3)
```

- *Dimension of dataframe*

```
2
```

- *Datatype of columns of dataframe*

```
FREQUENCY OF READING      object
NUMBER OF STUDENTS         int64
PERCENTAGE               float64
dtype: object
```

- *Size of dataframe*

```
12
```

- *Top two records of dataframe*

```
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                          never read                  11        4.89
1  one or less book within two months                  70       31.11
```

- *Bottom two records of dataframe*

```
          FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
2            one book a month                  99        44.0
3  two or more books a month                   45        20.0
```

- *User specific top records of dataframe*

```
Enter how many records you want to display from the top- 3
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                          never read                  11        4.89
1  one or less book within two months                  70       31.11
2                   one book a month                   99       44.00
```

- *User specific bottom records of dataframe*

```
Enter how many records you want to display from the bottom- 3
                  FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
1  one or less book within two months                  70       31.11
2                     one book a month                  99       44.00
3           two or more books a month                   45       20.00
```

- *User specific record of dataframe*

```
Enter the Reading Frequency of which you want to see the details- one book a month
  FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
2     one book a month                  99        44.0
```

4) Reading habits of students of Erciyes University

- *Transpose of dataframe*

```
                                0  ...                                3
FREQUENCY OF READING  never read  ...  two or more books a month
NUMBER OF STUDENTS               9  ...                               22
PERCENTAGE                    8.91  ...                            21.78
```

- *Column name of dataframe*

```
Index(['FREQUENCY OF READING', 'NUMBER OF STUDENTS', 'PERCENTAGE'], dtype='object')
```

- *Index name of dataframe*

```
RangeIndex(start=0, stop=4, step=1)
```

- *Shape of dataframe*

```
(17, 3)
```

- *Dimension of dataframe*

```
2
```

- *Datatype of columns of dataframe*

```
FREQUENCY OF READING     object
NUMBER OF STUDENTS        int64
PERCENTAGE              float64
dtype: object
```

- *Size of dataframe*

```
12
```

- *Top two records of dataframe*

```
                  FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                            never read                   9        8.91
1  one or less book within two months                    29       28.71
```

- *Bottom two records of dataframe*

```
          FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
2              one book a month                  41       40.59
3   two or more books a month                    22       21.78
```

- *User specific top records of dataframe*

```
Enter how many records you want to display from the top- 3
                  FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                            never read                   9        8.91
1  one or less book within two months                    29       28.71
2                      one book a month                  41       40.59
```

- *User specific bottom records of dataframe*

```
Enter how many records you want to display from the bottom- 3
                  FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
1  one or less book within two months                    29       28.71
2                      one book a month                  41       40.59
3            two or more books a month                   22       21.78
```

- *User specific record of dataframe*

```
Enter the Reading Frequency of which you want to see the details- never read
  FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0           never read                   9        8.91
```

- **INSERT RECORD**

1) Genre preferences of students of Ankara University

```
Enter the s.no. after the existing record- 17
Enter new Genre- economy
Enter new Number of Students- 9
Enter new Percentage- 4.9
                   GENRE  NUMBER OF STUDENTS  PERCENTAGE
0         literary works                 152       13.39
1               historic                  94        8.28
2               romantic                  87        7.67
3                 comedy                  99        8.72
4             psychology                  88        7.75
5   personal development                  69        6.08
6               politics                  63        5.55
7              adventure                  56        4.93
8              religious                  52        4.58
9            crime Novel                  56        4.93
10           culure arts                  49        4.32
11       science fiction                  47        4.14
12             education                  57        5.02
13            philosophy                  56        4.93
14                horror                  36        3.17
15          professional                  35        3.08
16                 essay                  39        3.44
17               economy                   9        4.90
Record inserted successfully.
```

2) Genre preferences of students of Erciyes University

```
Enter the s.no. after the existing record- 17
Enter new Genre- economy
Enter new Number of Students- 10
Enter new Percentage- 5.2
                   GENRE  NUMBER OF STUDENTS  PERCENTAGE
0         literary works                  57       13.07
1               historic                  81       18.58
2               romantic                  37        8.49
3                 comedy                  23        5.28
4             psychology                  18        4.13
5   personal development                  26        5.96
6               politics                  32        7.34
7              adventure                  24        5.50
8              religious                  27        6.19
9            crime Novel                  17        3.90
10           culure arts                  21        4.82
11       science fiction                  23        5.28
12             education                  11        2.52
13            philosophy                   8        1.83
14                horror                  16        3.67
15          professional                   5        1.15
16                 essay                   4        0.92
17               economy                  10        5.20
Record inserted successfully.
```

3) Reading habits of students of Ankara University

```
Enter Your Choice- c
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                            never read                 11        4.89
1  one or less book within two months                   70       31.11
2                     one book a month                   99       44.00
3           two or more books a month                   45       20.00
Enter the s.no. after the existing record- 4
Enter Frequency of Reading- one book in a week
Enter Number of Students- 50
Enter Percentage- 25.0
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                            never read                 11        4.89
1  one or less book within two months                   70       31.11
2                     one book a month                   99       44.00
3           two or more books a month                   45       20.00
4                   one book in a week                   50       25.00
Record inserted successfully.
```

4) Reading habits of students of Erciyes University

```
Enter Your Choice- d
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                            never read                  9        8.91
1  one or less book within two months                   29       28.71
2                     one book a month                   41       40.59
3           two or more books a month                   22       21.78
Enter the s.no. after the existing record- 4
Enter Frequency of Reading- one book in a week
Enter Number of Students- 44
Enter Percentage- 41.2
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                            never read                  9        8.91
1  one or less book within two months                   29       28.71
2                     one book a month                   41       40.59
3           two or more books a month                   22       21.78
4                   one book in a week                   44       41.20
Record inserted successfully.
```

- **UPDATE RECORD**

1) Genre preferences of students of Ankara University

```
Enter the s.no. of which you want to update record- 17
Enter new Genre- sociology
Enter new Number of Students- 45
Enter new Percentage- 4.22
                  GENRE  NUMBER OF STUDENTS  PERCENTAGE
0         literary works                 152       13.39
1               historic                  94        8.28
2               romantic                  87        7.67
3                 comedy                  99        8.72
4             psychology                  88        7.75
5   personal development                  69        6.08
6               politics                  63        5.55
7              adventure                  56        4.93
8              religious                  52        4.58
9            crime Novel                  56        4.93
10           culure arts                  49        4.32
11       science fiction                  47        4.14
12             education                  57        5.02
13            philosophy                  56        4.93
14                horror                  36        3.17
15          professional                  35        3.08
16                 essay                  39        3.44
17             sociology                  45        4.22
Record updated successfully.
```

2) Genre preferences of students of Erciyes University

```
Enter the s.no. of which you want to update record- 17
Enter new Genre- sociology
Enter new Number of Students- 25
Enter new Percentage- 6
                  GENRE  NUMBER OF STUDENTS  PERCENTAGE
0         literary works                  57       13.07
1               historic                  81       18.58
2               romantic                  37        8.49
3                 comedy                  23        5.28
4             psychology                  18        4.13
5   personal development                  26        5.96
6               politics                  32        7.34
7              adventure                  24        5.50
8              religious                  27        6.19
9            crime Novel                  17        3.90
10           culure arts                  21        4.82
11       science fiction                  23        5.28
12             education                  11        2.52
13            philosophy                   8        1.83
14                horror                  16        3.67
15          professional                   5        1.15
16                 essay                   4        0.92
17             sociology                  25        6.00
Record updated successfully.
```

3) Reading habits of students of Ankara University

```
Enter Your Choice- c
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                           never read                 11        4.89
1  one or less book within two months                 70       31.11
2                      one book a month                99       44.00
3            two or more books a month                 45       20.00
4                   one book in a week                 50       25.00
Enter the s.no. of which you want to update record- 4
Enter new Frequency- one book in two week
Enter new Number of Students- 52
Enter new Percentage- 25.1
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                           never read                 11        4.89
1  one or less book within two months                 70       31.11
2                      one book a month                99       44.00
3            two or more books a month                 45       20.00
4                 one book in two week                 52       25.10
Record updated successfully.
```

4) Reading habits of students of Erciyes University

```
Enter Your Choice- d
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                           never read                  9        8.91
1  one or less book within two months                 29       28.71
2                      one book a month                41       40.59
3            two or more books a month                 22       21.78
4                   one book in a week                 44       41.20
Enter the s.no. of which you want to update record- 4
Enter new Frequency- one book in two week
Enter new Number of Students- 45
Enter new Percentage- 41.21
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                           never read                  9        8.91
1  one or less book within two months                 29       28.71
2                      one book a month                41       40.59
3            two or more books a month                 22       21.78
4                 one book in two week                 45       41.21
Record updated successfully.
```

- **DELETE RECORD**

1) Genre preferences of students of Ankara University

```
Enter the s.no. of which you want to delete record- 17
                   GENRE  NUMBER OF STUDENTS  PERCENTAGE
0          literary works                 152       13.39
1                historic                  94        8.28
2                romantic                  87        7.67
3                  comedy                  99        8.72
4              psychology                  88        7.75
5   personal development                   69        6.08
6                politics                  63        5.55
7               adventure                  56        4.93
8               religious                  52        4.58
9             crime Novel                  56        4.93
10            culure arts                  49        4.32
11        science fiction                  47        4.14
12              education                  57        5.02
13             philosophy                  56        4.93
14                 horror                  36        3.17
15           professional                  35        3.08
16                  essay                  39        3.44
Record deleted successfully.
```

2) Genre preferences of students of Erciyes University

```
Enter the s.no. of which you want to delete record- 17
                   GENRE  NUMBER OF STUDENTS PERCENTAGE
0          literary works                  57      13.07
1                historic                  81      18.58
2                romantic                  37       8.49
3                  comedy                  23       5.28
4              psychology                  18       4.13
5   personal development                   26       5.96
6                politics                  32       7.34
7               adventure                  24        5.5
8               religious                  27       6.19
9             crime Novel                  17        3.9
10            culure arts                  21       4.82
11        science fiction                  23       5.28
12              education                  11       2.52
13             philosophy                   8       1.83
14                 horror                  16       3.67
15           professional                   5       1.15
16                  essay                   4       0.92
Record deleted successfully.
```

3) Reading habits of students of Ankara University

```
Enter Your Choice- c
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                          never read                  11        4.89
1  one or less book within two months                  70       31.11
2                     one book a month                 99       44.00
3           two or more books a month                  45       20.00
4                 one book in two week                 52       25.10
Enter the s.no. of which you want to delete record- 4
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                          never read                  11        4.89
1  one or less book within two months                  70       31.11
2                     one book a month                 99       44.00
3           two or more books a month                  45       20.00
Record deleted successfully.
```

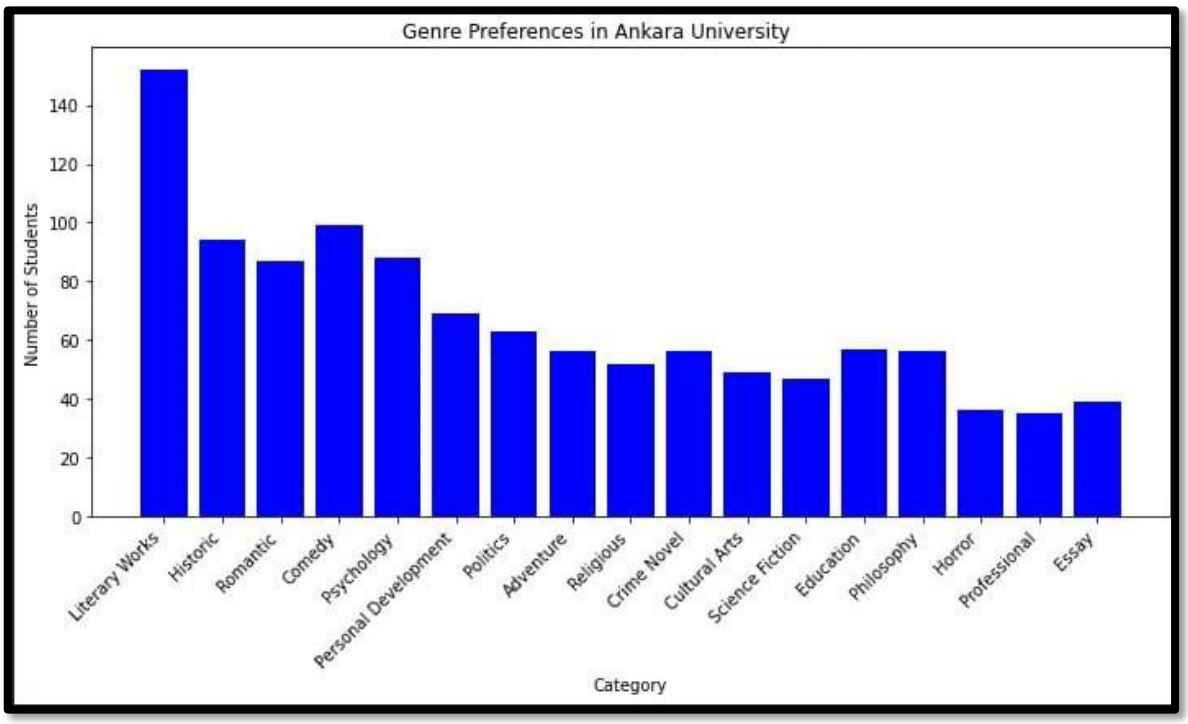
4) Reading habits of students of Erciyes University

```
Enter Your Choice- d
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                          never read                   9        8.91
1  one or less book within two months                  29       28.71
2                     one book a month                 41       40.59
3           two or more books a month                  22       21.78
4                 one book in two week                 45       41.21
Enter the s.no. of which you want to delete record- 4
                 FREQUENCY OF READING  NUMBER OF STUDENTS  PERCENTAGE
0                          never read                   9        8.91
1  one or less book within two months                  29       28.71
2                     one book a month                 41       40.59
3           two or more books a month                  22       21.78
Record deleted successfully.
```

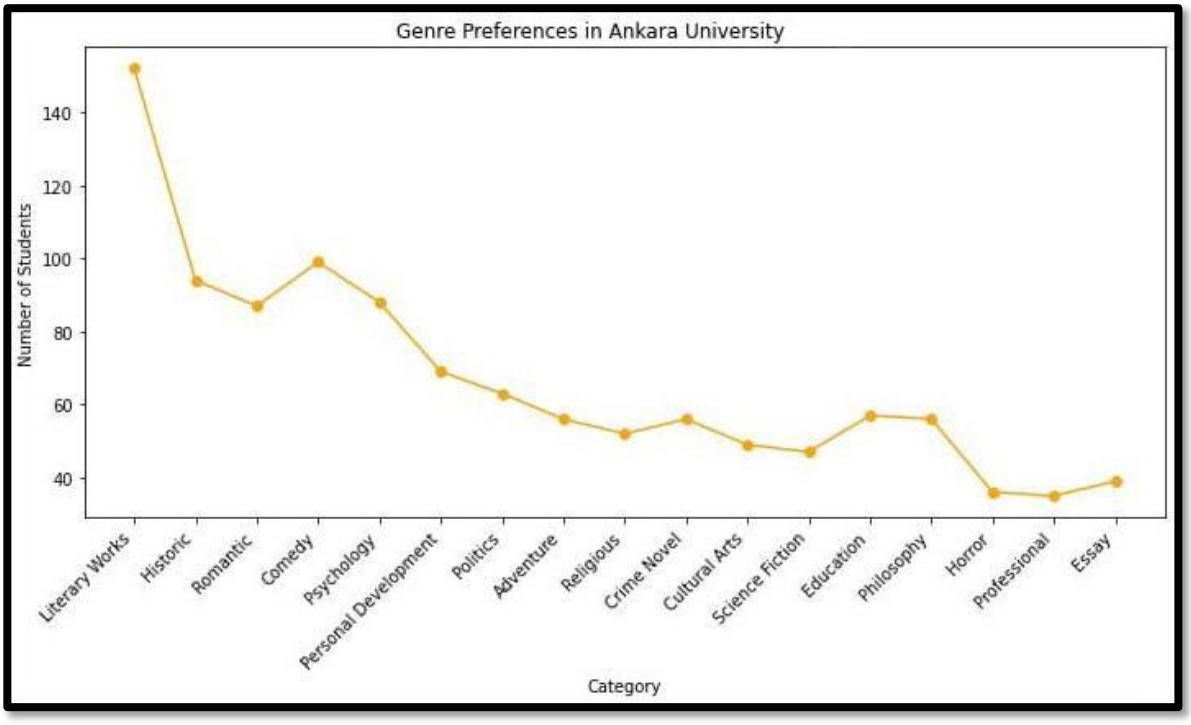
- **DATA VISUALIZATION**

1) Genre preferences in Ankara University

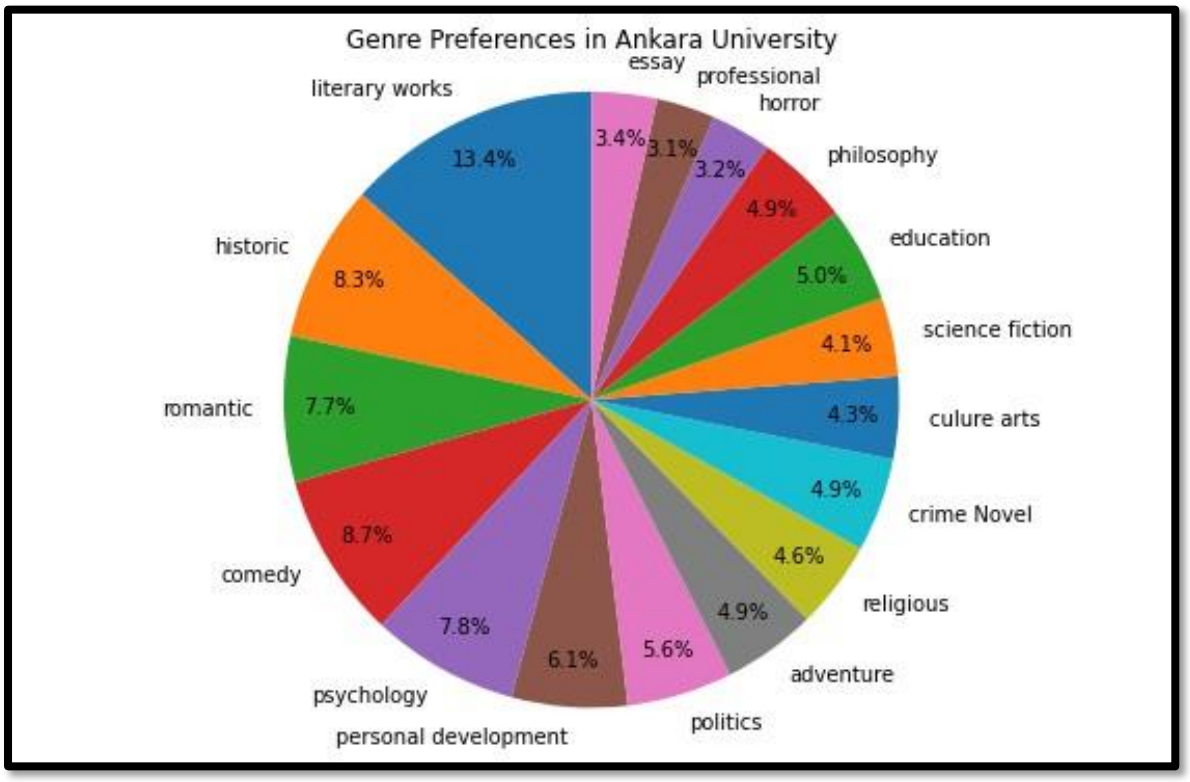
- ***Bar Chart***



- ***Line Chart***

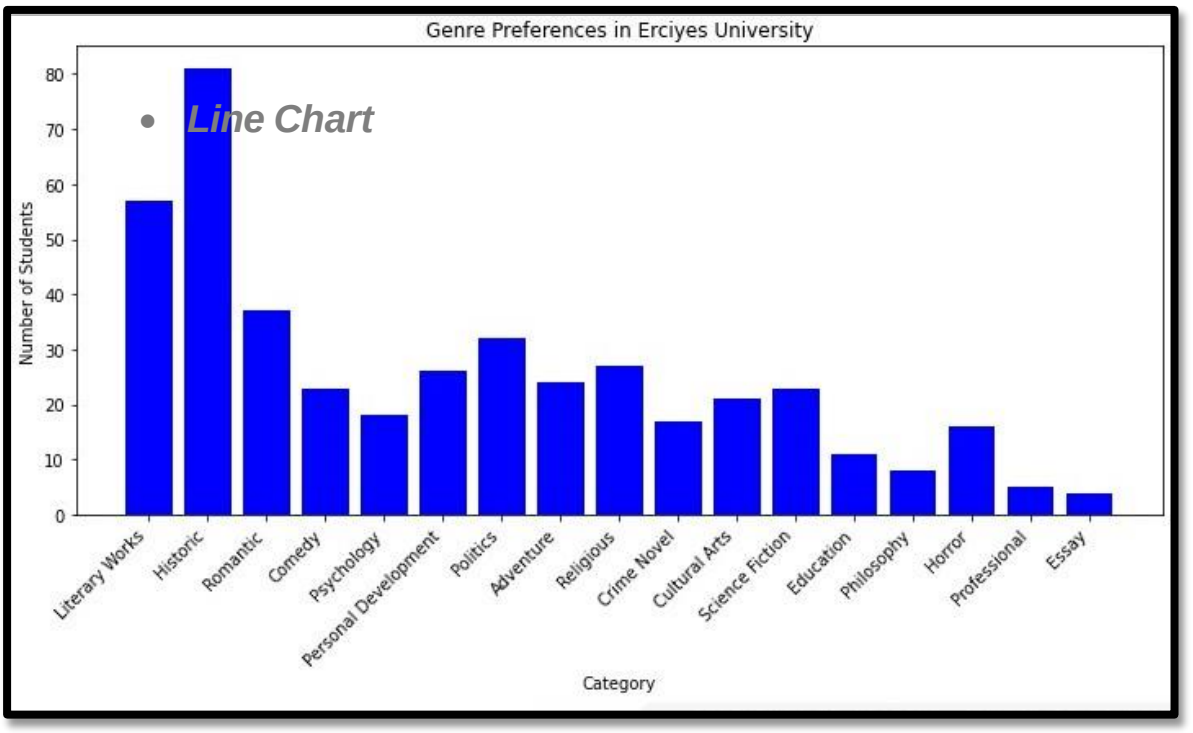


- ***Pie Chart***



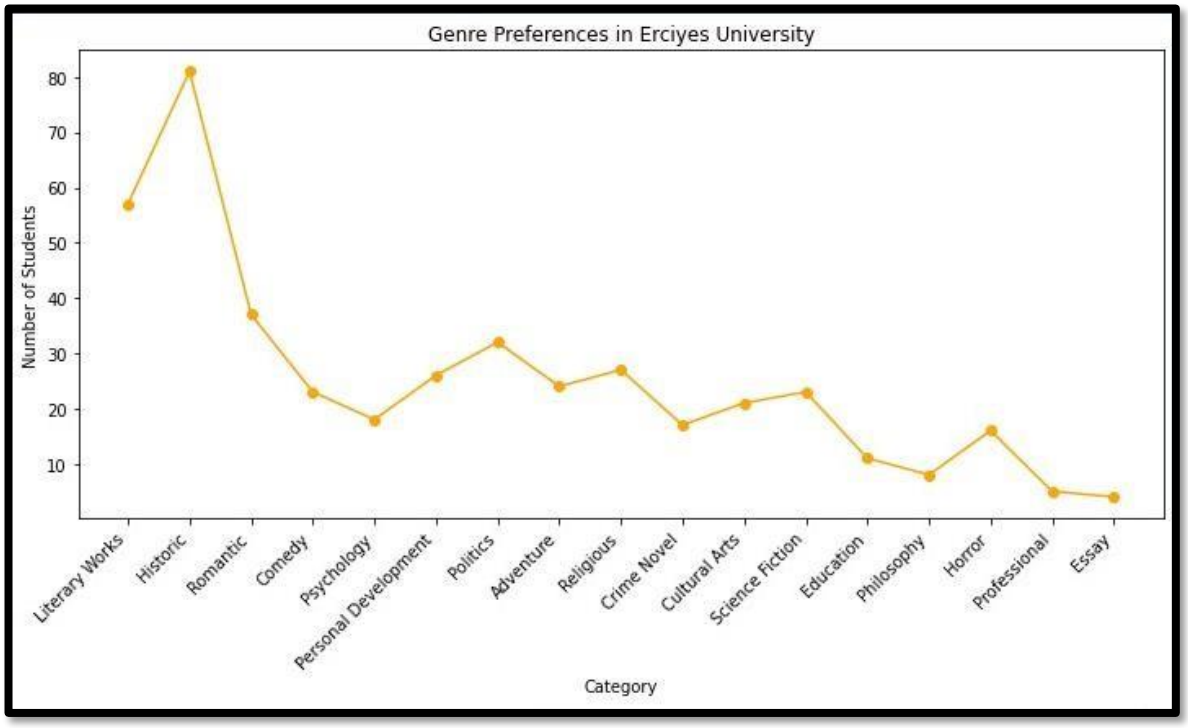
2) Genre preferences in Erciyes University

- ***Bar Chart***

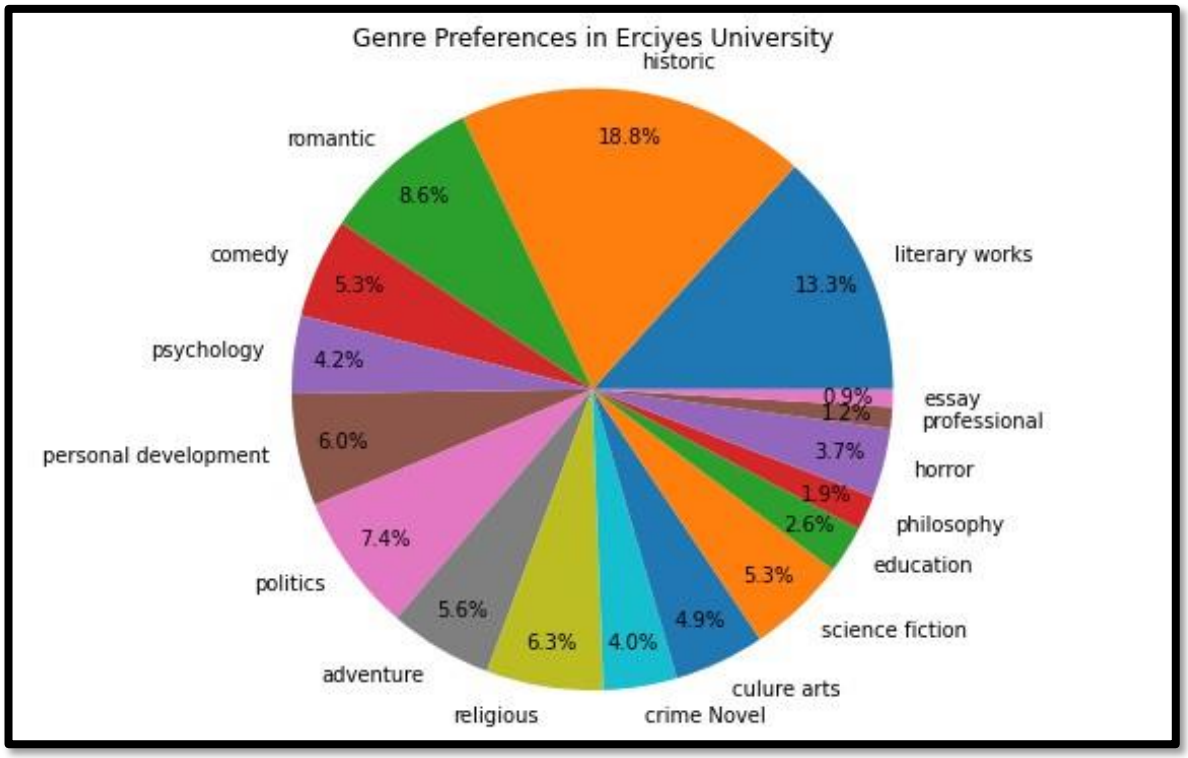


- ***Line Chart***

- ***Line Chart***

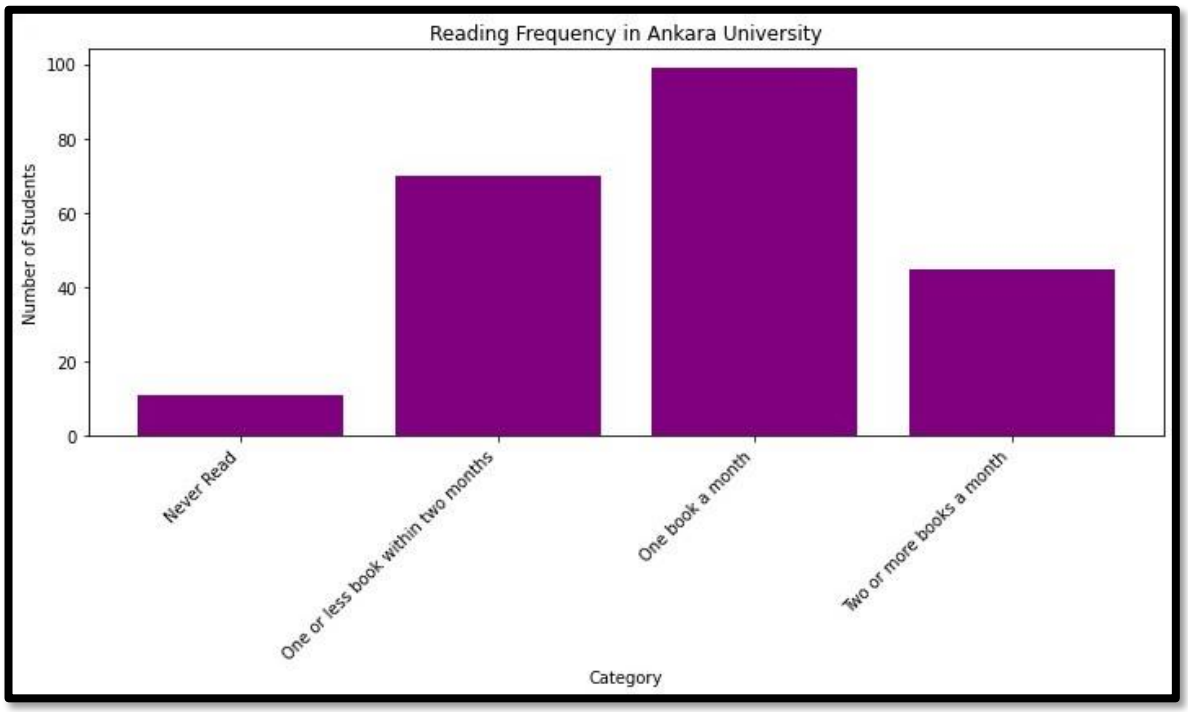


- ***Pie Chart***

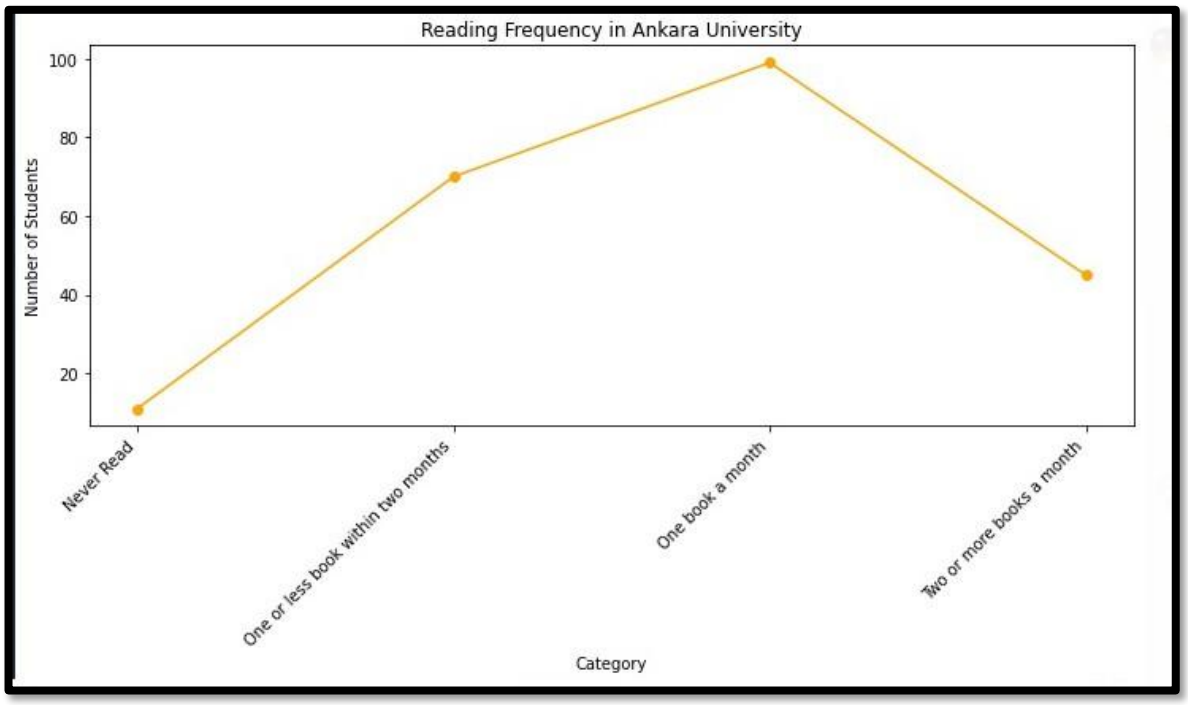


3) Reading habits in Ankara University

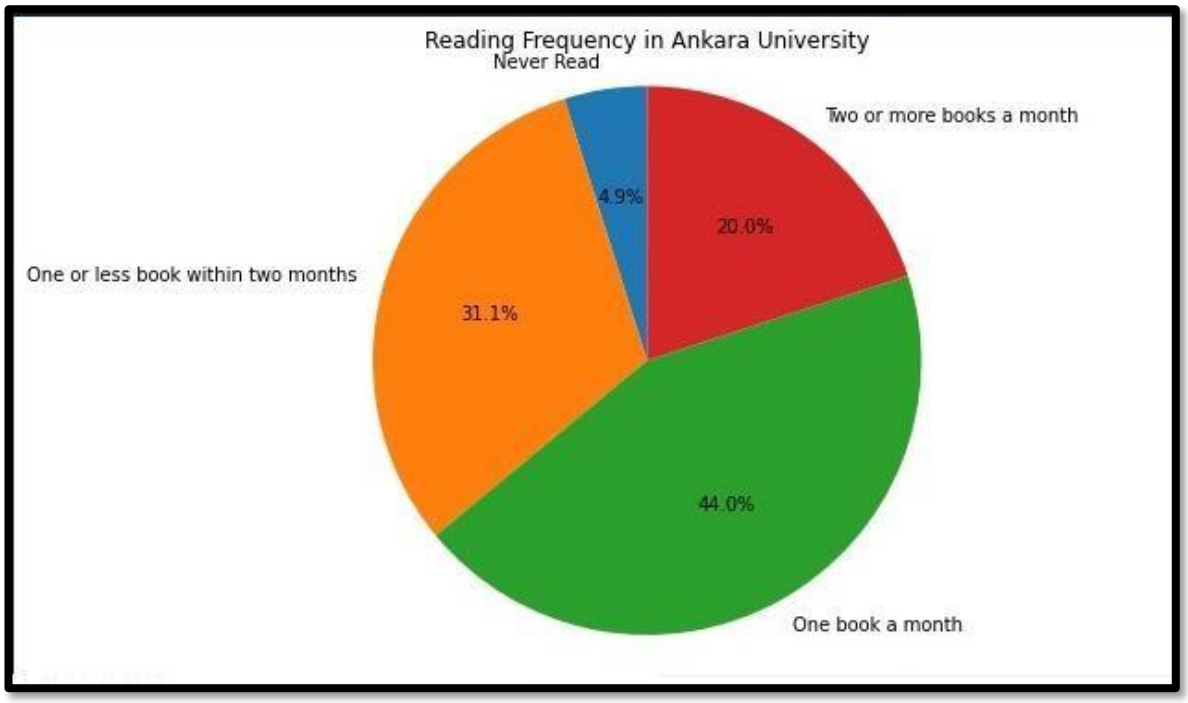
- ***Bar Chart***



- ***Line Chart***

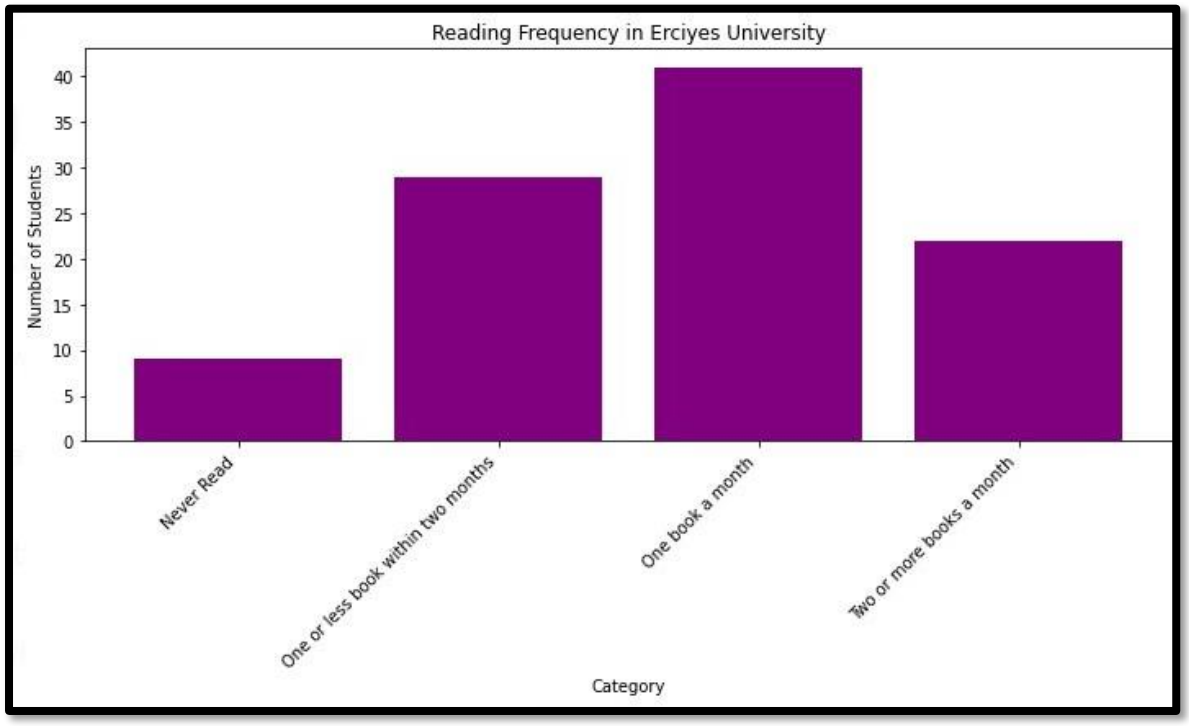


- ***Pie Chart***

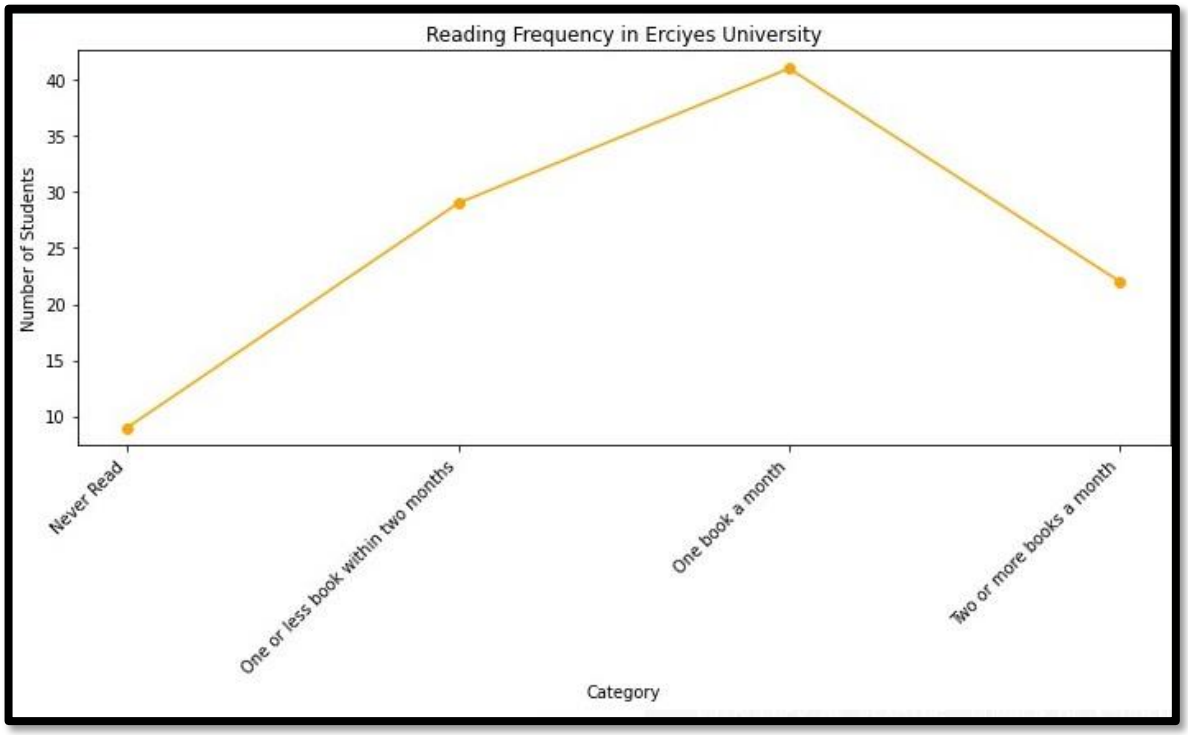


4) Reading habits in Erciyes University

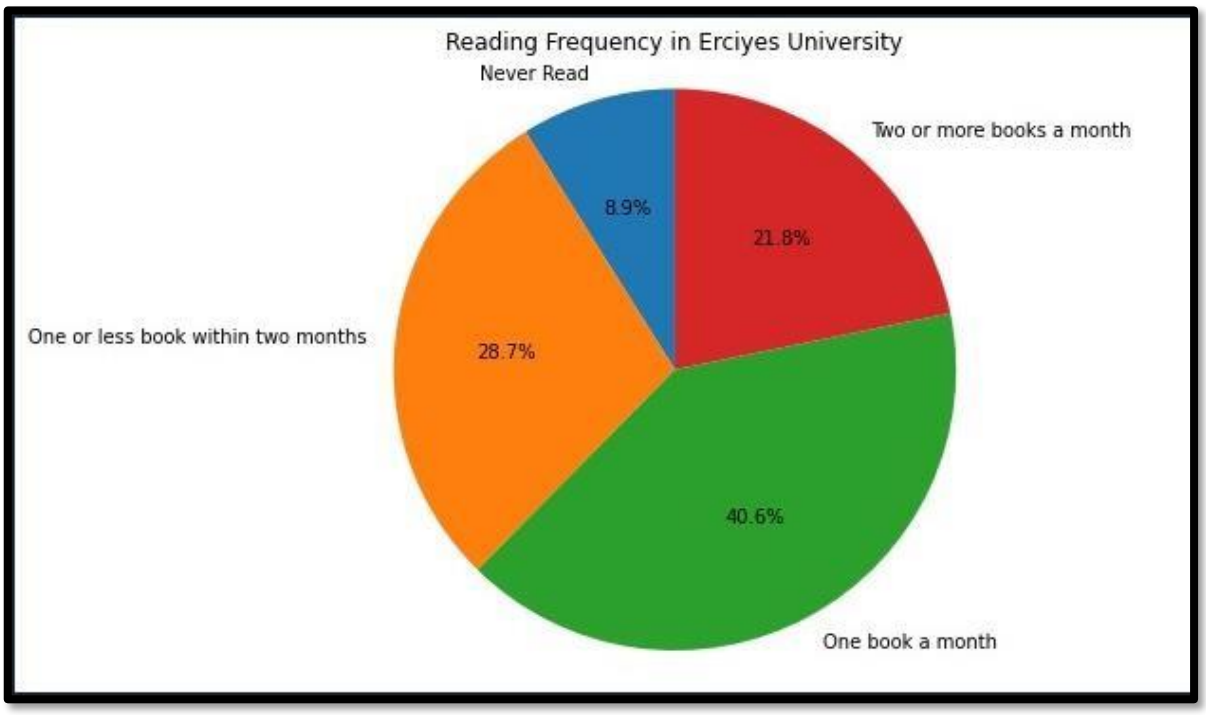
- ***Bar Chart***



- ***Line Chart***



- ***Pie Chart***



BIBLIOGRAPHY

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2	Google
3	NCERT IP Textbook (class 11)
4	NCERT IP Textbook (class12)
5	www.Geeksforgeeks.com
6	www.w3schools.com