

Indian Tourism Analysis



By: Tarun Kumar
Mtech Data Science
Instructor: Prof. Niraj Kumar Sharma

Outline

- **Motivation**
- **Block Diagram**
- **Output**
- **Pseudocode**
- **Code snippet**
- **Dashboard**
- **Observation**

Motivation

Tourism's Economic Significance

- Tourism Industry contribute 4.6 % of GDP of India
- Tourism would contribute \$512 billion to India's GDP by 2028, and would create 53 million jobs by 2029

Significant potential of Tourism in India

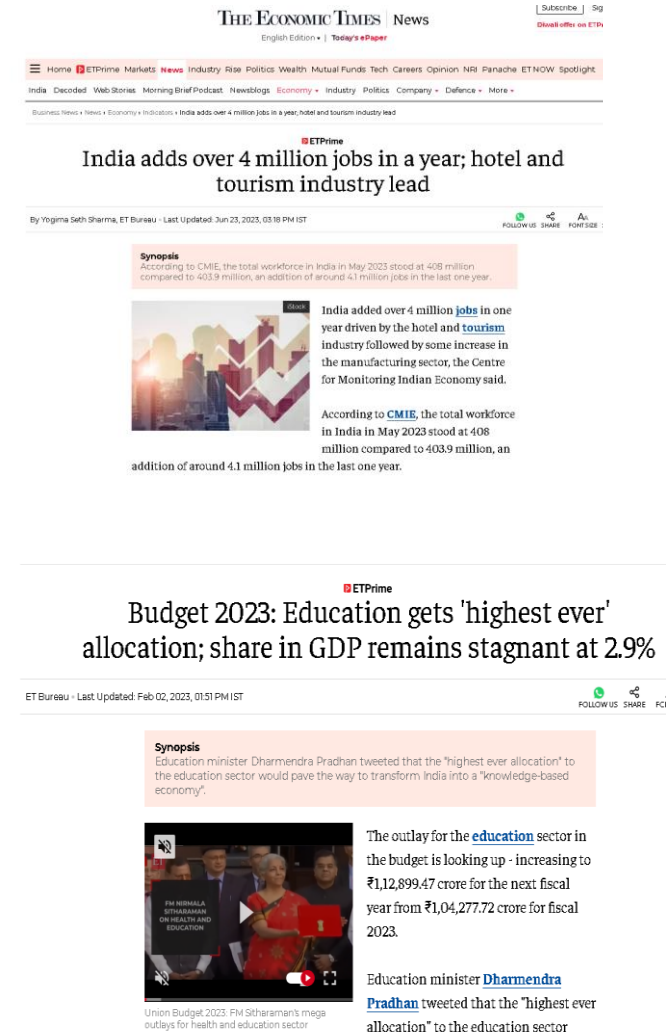
- Forbes magazine ranked India as the 7th most beautiful country in 'The 50 Most Beautiful Countries In The World' rankings.[1]

Impact on Local Communities

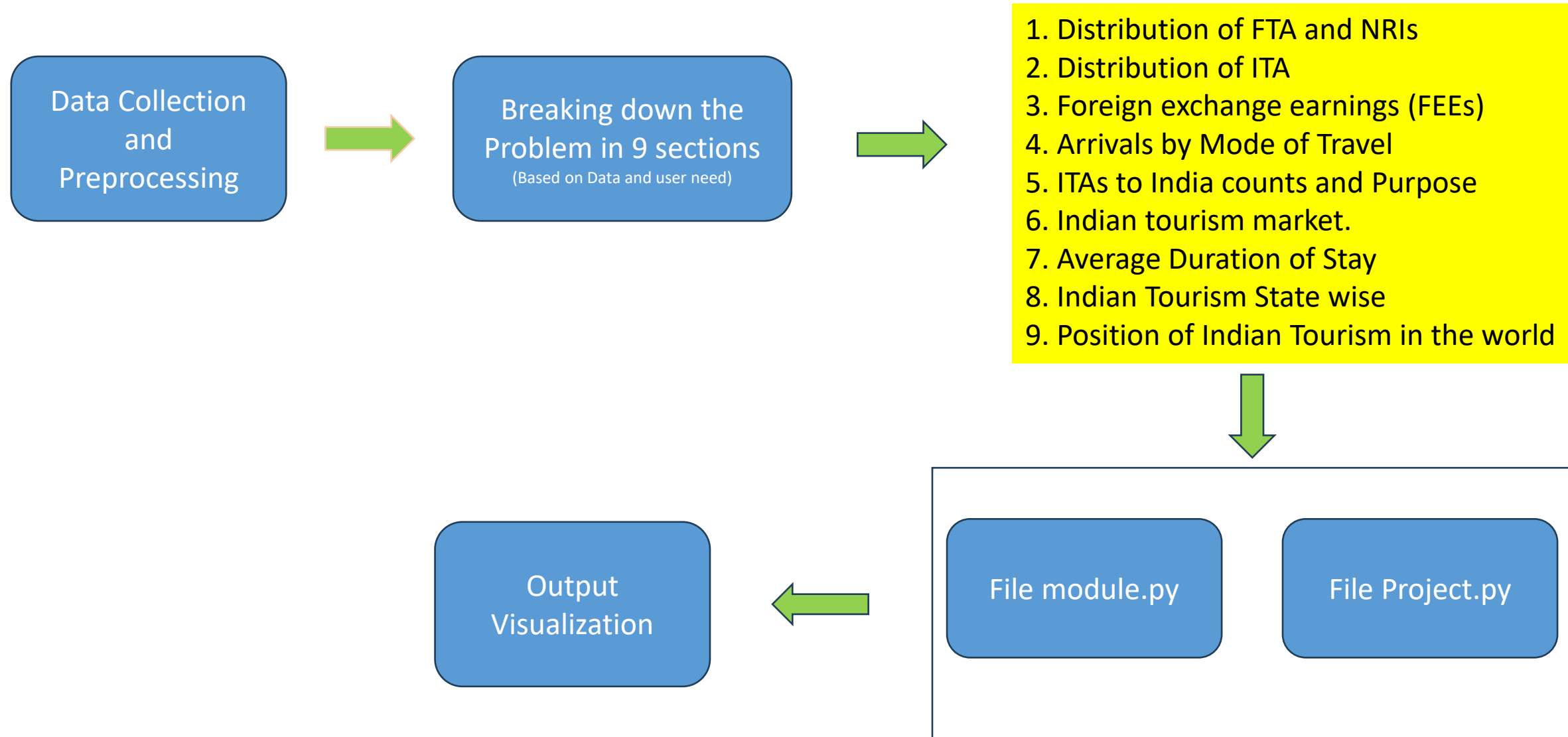
- Tourism can positively impact local communities, promoting development and infrastructure in various regions.

Diversity of Indian Tourism:

- India's diverse landscapes, cultures, and historical sites.



Block Diagram



FTAs Arrivals

Foreign Tourist Arrivals (FTAs) and NRIs Year-Wise

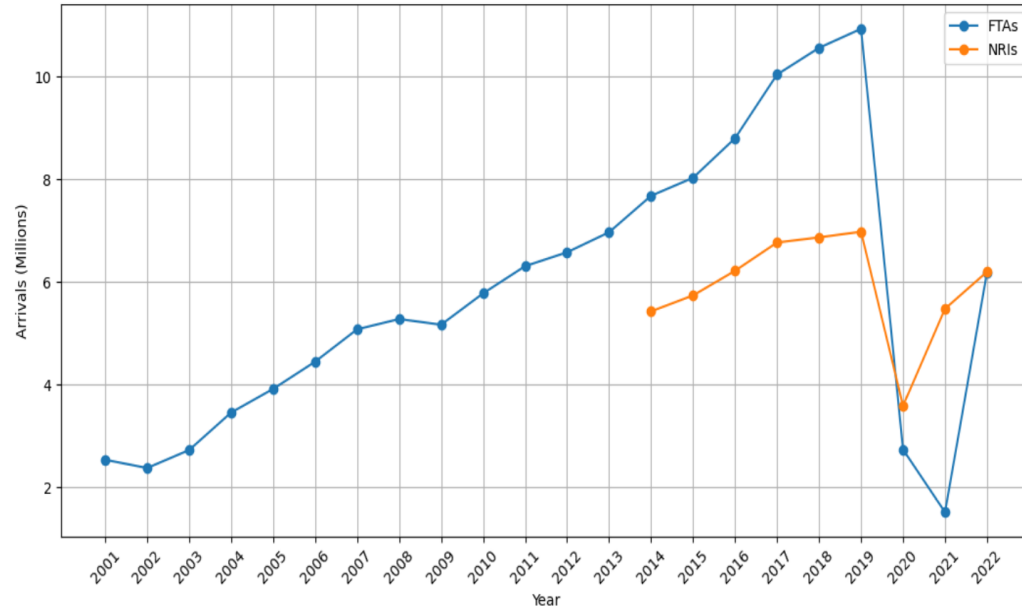


Fig. 1

Foreign Tourist Arrivals (FTAs) in World Year-Wise

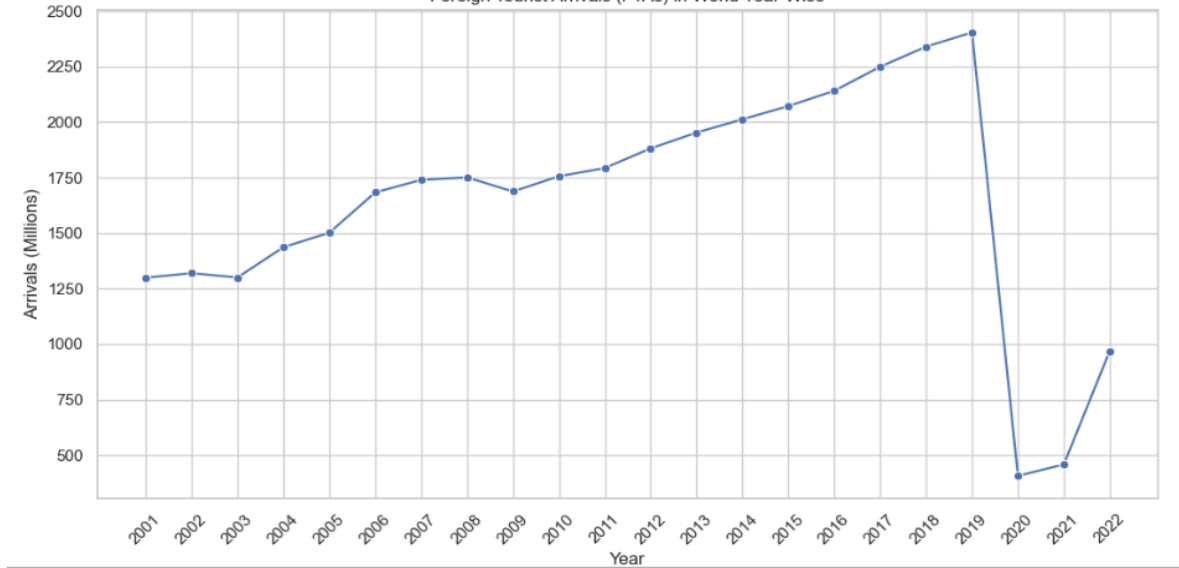


Fig. 3

Box Plot of FTAs in India (in million)

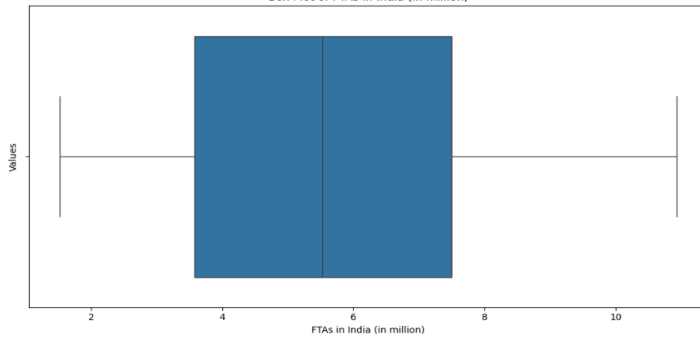


Fig. 2

Total Arrivals [2001-2022]

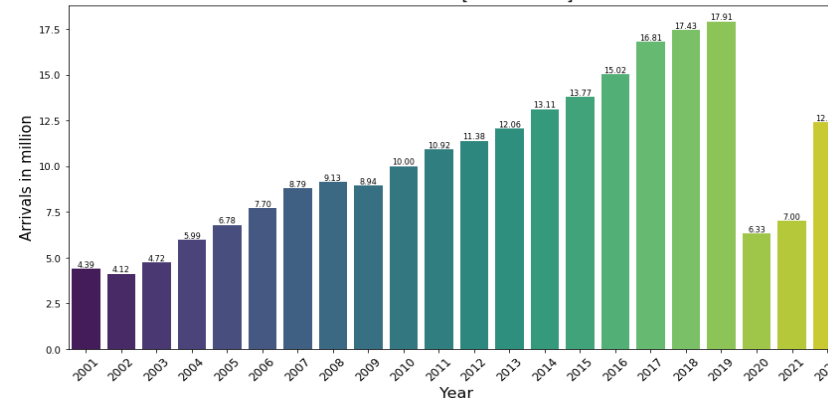


Fig. 5

Box Plot of World_JTA

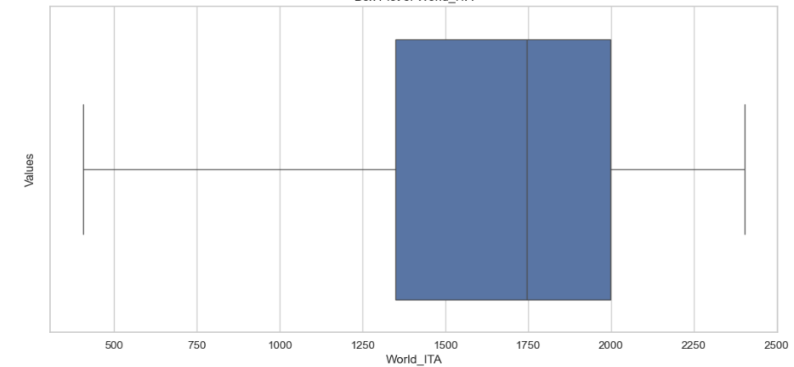


Fig. 4

Mode of Arrival

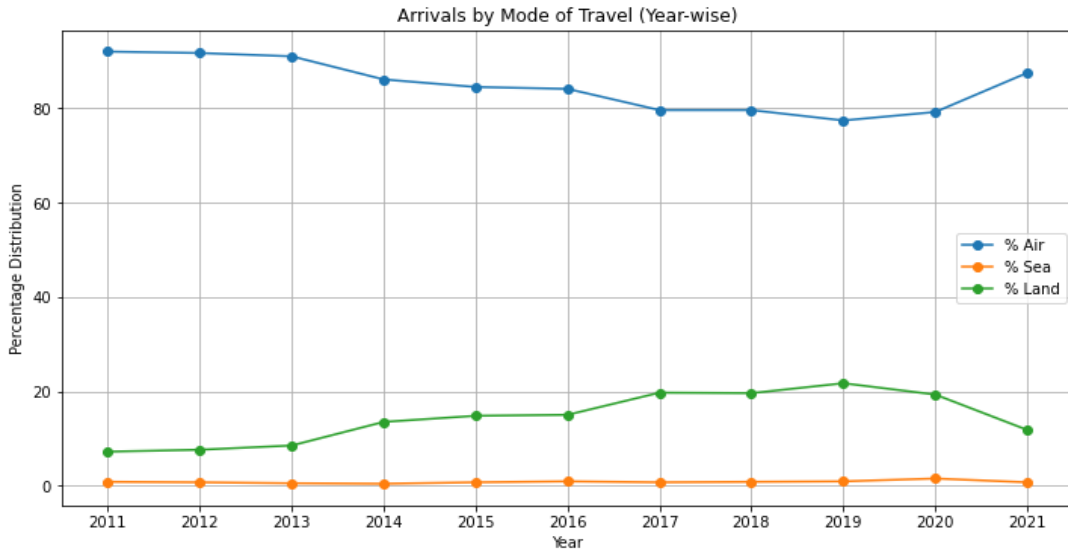
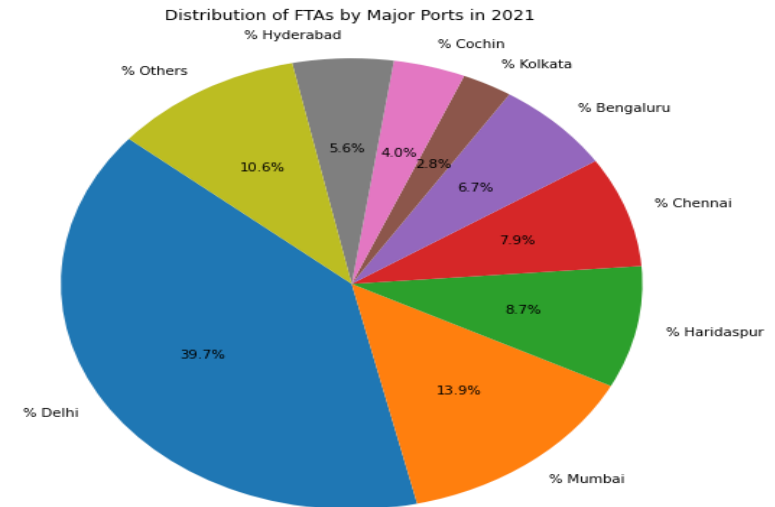
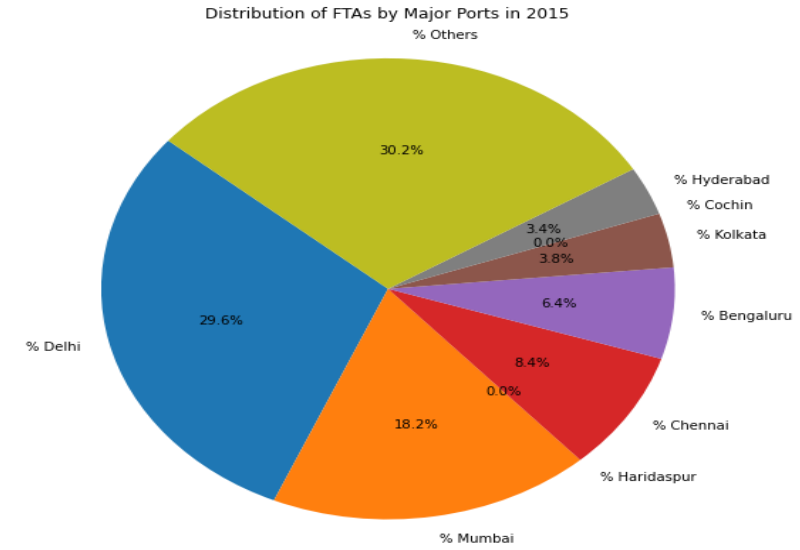
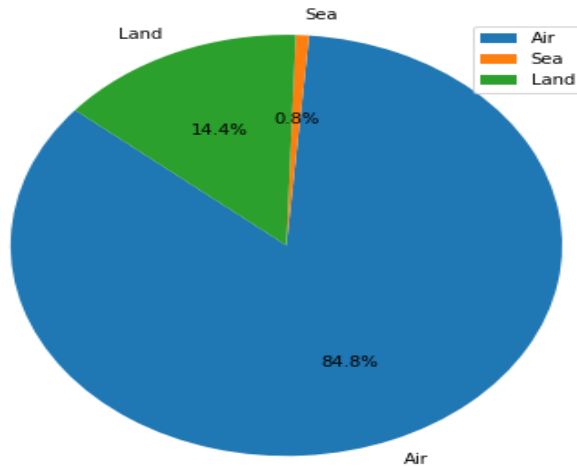


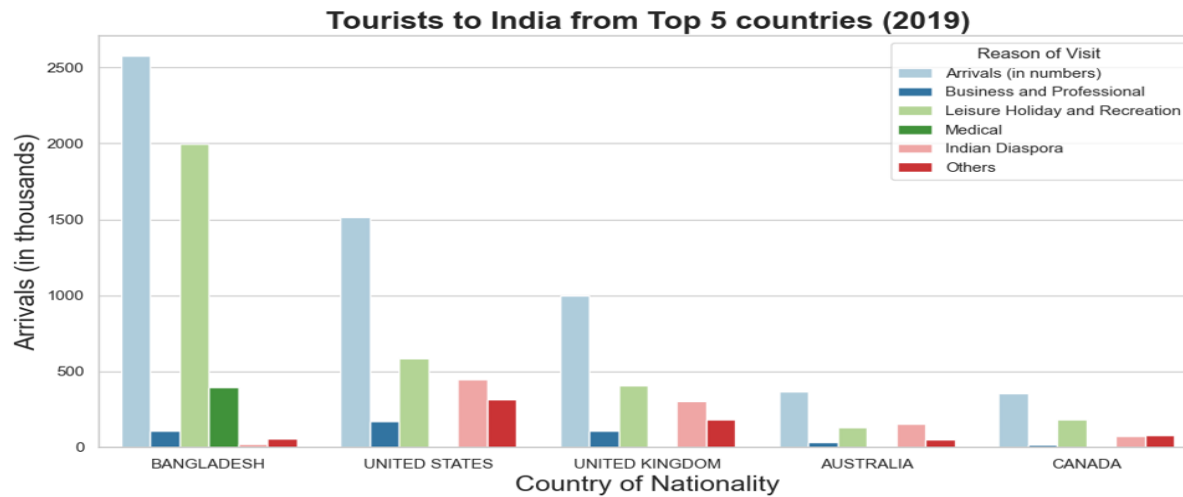
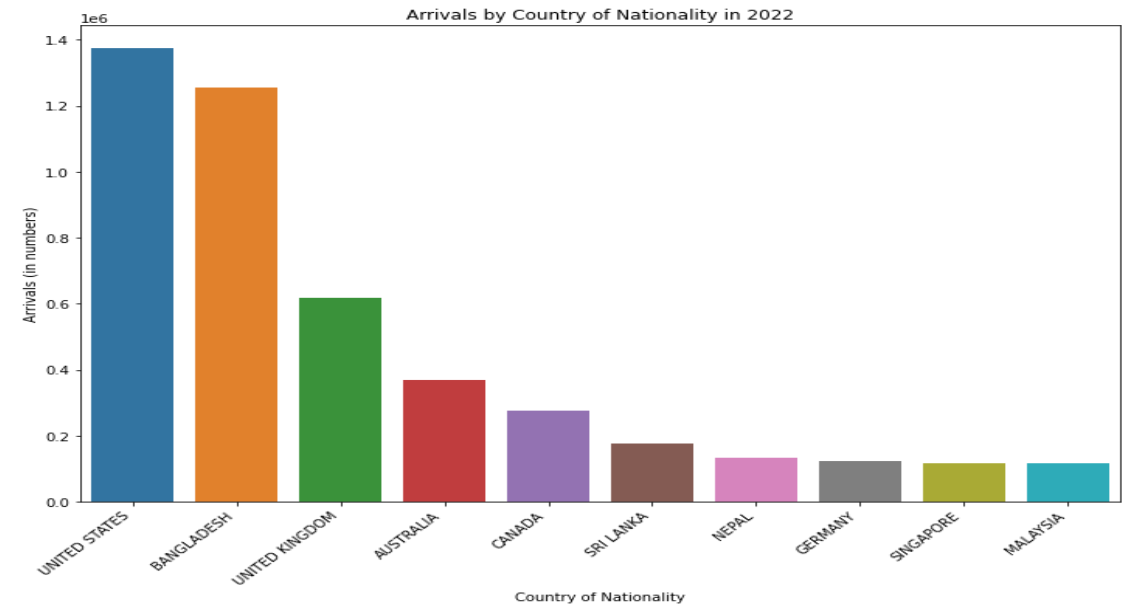
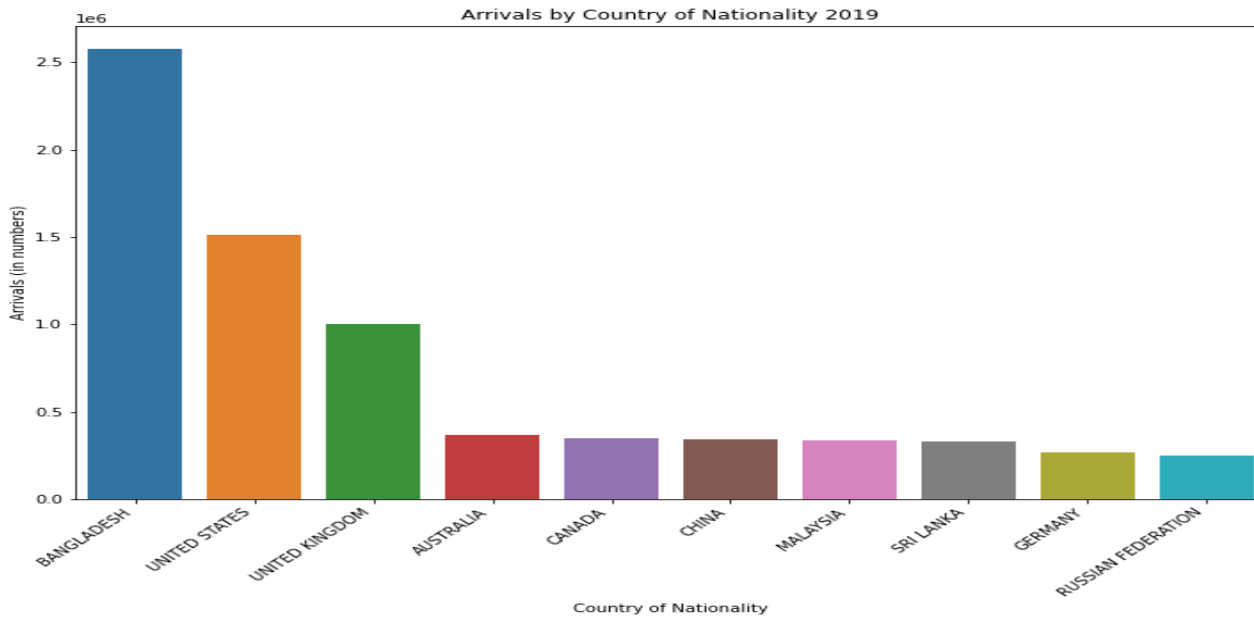
Fig. 6



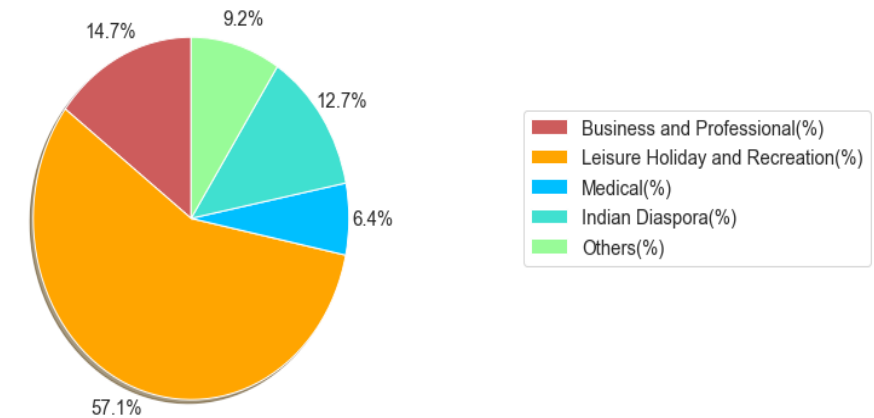
Average Distribution of Arrivals by Mode of Travel



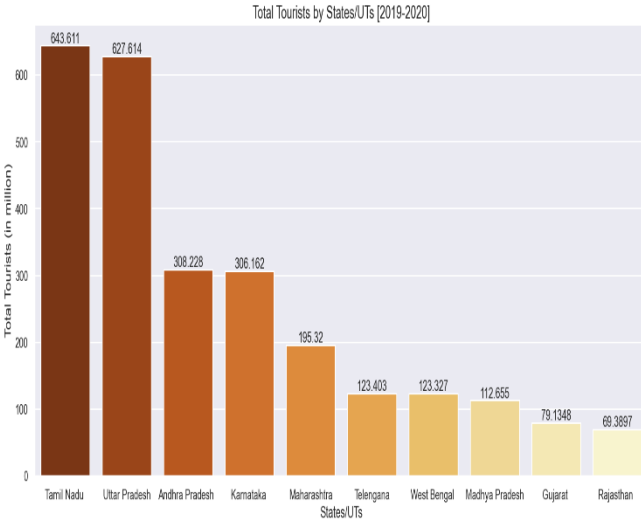
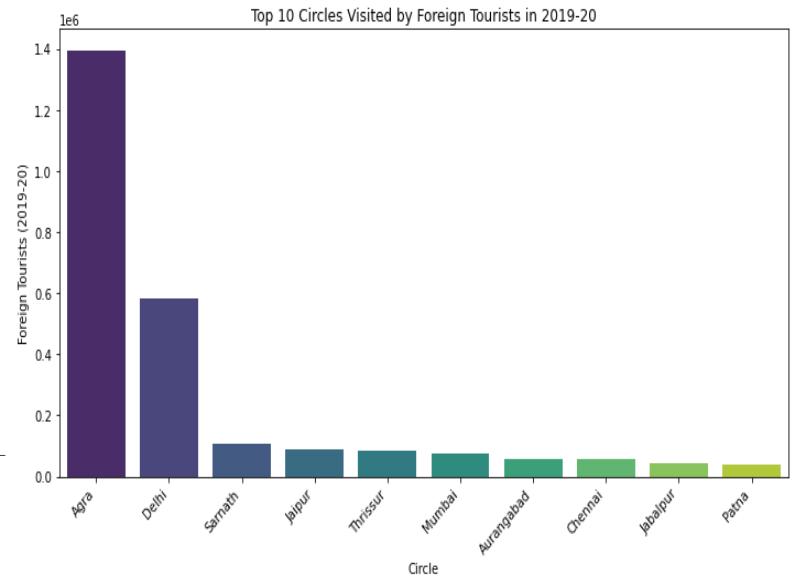
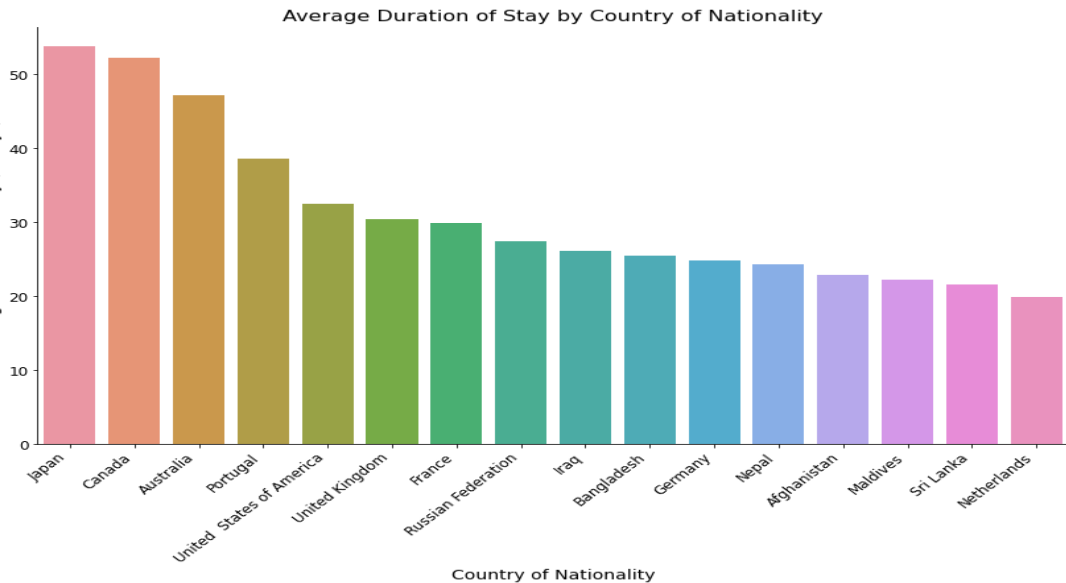
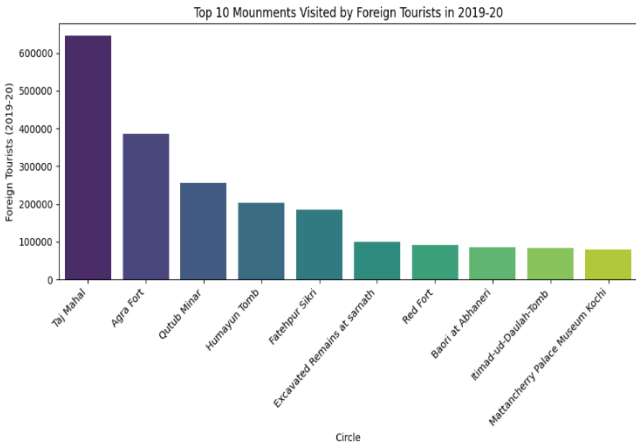
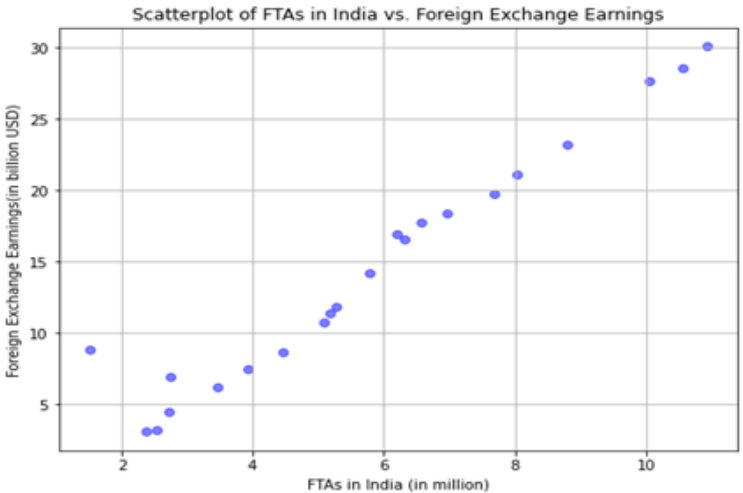
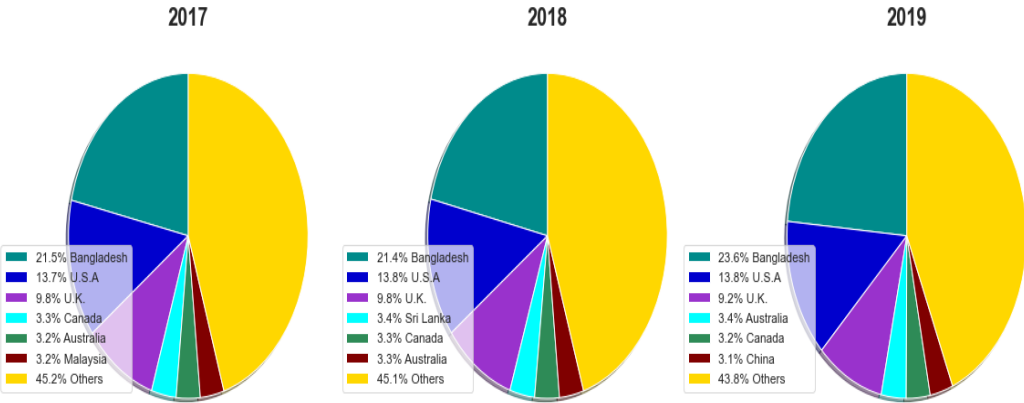
Statistics of ITAs to India based on Counts and Purpose



Average distribution of tourists based on purpose of visit - 2019



Percentage shares of countries on Indian Tourism [2017, 2018, 2019]



Pseudo Code

```
# project.py

# Import necessary modules
import module as mod

# Main function to execute the Indian Tourism Analysis
function main():
    # Display welcome message
    mod.dashboard()

    # Execute the dashboard loop
    while True:
        # Display menu options
        display menu options
        # Get user choice
        get user choice

        # Check if the user wants to quit
        if choice is 'q':
            break

    # Execute corresponding analysis based on user choice
    Call function, according to user choice
    if choice=='1':
        file_path = "path.csv"
        #call functions from module
        mod.plot_ftas_nris(df)
```

```
# module.py

# Function to display the welcome message
function dashboard():
    print welcome message

# Function to preprocess
function preprocess_data(df):
    return df.dropna(subset=['Year']).reset_index(drop=True)

# Function to create a box plot
function box_plot(df, col):
    plot box plot with specified column

# Function to plot Foreign Tourist Arrivals (FTAs) and NRIs Year-Wise
function plot_ftas_nris(df):
    # Extract necessary columns
    years, ftas_millions, nris_millions = df['Year'], df['FTAs in India (in million)'], df['NRIs arrivals in India (in million)']
    # Create a line plot to visualize both FTAs and NRIs arrivals year-wise
    plot line chart with years, ftas_millions, and nris_millions

# Function to plot Inbound Tourist Arrival in the world
function plot_itas_world(df):
    # Extract necessary columns
    years, world_ita = df['Year'], df['World_ITA']
    # Create a line plot to visualize FTAs in the world year-wise
    plot line chart with years and world_ita

# Function to preprocess total arrivals data
function preprocess_total_arrivals(df):
    # Fill NaN values and create a new column 'Total Arrivals'
    fill NaN values in specified columns
    create new column 'Total Arrivals'
```

Code Snippets

```
def dashboard():

    welcome_message = """

    *****
    *
    * 🌐 Welcome to the Indian Tourism Analysis *
    * Dashboard by Tarun Kumar *
    *
    *
    *****

    """

    print(welcome_message)

def preprocess_data(df):
    # Drop NaN values in the 'Year' column and reset index
    df = df.dropna(subset=['Year'])
    df = df.reset_index(drop=True)
    return df

def box_plot(df,col):
    # Create a box plot
    plt.figure(figsize=(8, 6))
    sns.boxplot(x=df[col])
    plt.title(f'Box Plot of {col}')
    plt.ylabel('Values')
    plt.show()

###----- Plot for Foreign Tourist Arrival and NRI Arrival over carious Years-----##

def plot_ftas_nris(df):
    # Extract necessary columns
    years = df['Year']
    ftas_millions = df['FTAs in India (in million)']
    nris_millions = df['NRIs arrivals in India (in million)']

    # Create a line plot to visualize both FTAs and NRIs arrivals year-wise
    plt.figure(figsize=(14, 7)) # Adjust the figure size as needed
    plt.plot(years, ftas_millions, marker='o', linestyle='-', label='FTAs')
    plt.plot(years, nris_millions, marker='o', linestyle='-', label='NRIs')
    plt.title('Foreign Tourist Arrivals (FTAs) and NRIs Year-Wise')
    plt.xlabel('Year')
    plt.ylabel('Arrivals (Millions)')
    plt.grid(True)
```

```
def main():
    mod.dashboard()

    while True:
        print("Select the type of plot:")
        print("1. Foreign Tourist Arrivals (FTAs) and NRIs Year-Wise")
        print("2. Distribution of ITA")
        print("3. Foreign exchange earnings (FEEs) from tourism vs FTA")
        print("4. Arrivals by Mode of Travel (Year-wise)")
        print("5. Statistics of ITAs to India based on Counts and Purpose")
        print("6. Countrywise contributions to the Indian tourism market.")
        print("7. Average Duration of Stay by Region and Country of Nationality.")
        print("8. Indian Tourism Statewise Statistics (foreign and domestic travellers) and Top 10 Tourism Destinations")
        print("9. Position of Indian Tourism in the world [2001 - 2021]")
        print("Enter 'q' to quit")

        choice = input("Enter your choice: ")

        if choice.lower() == 'q':
            break

        if choice=='1':
            file_path = "data\India-Tourism-Statistics-2001-2020-fta_nri_ita.csv"
            df = mod.load_csv(file_path)

            # Preprocess data
            df = mod.preprocess_data(df)

            # Plot FTAs and NRIs
            mod.plot_ftas_nris(df)
            mod.box_plot(df,'FTAs in India (in million)')
            mod.plot_itas_world(df)
            mod.box_plot(df,"World_ITA")

        elif choice == '2':
            #Path for total arrivals
            file_path = "data\India-Tourism-Statistics-1981-2020-fta_nri_ita.csv"
            df_total = mod.load_csv(file_path)
            df_total=mod.preprocess_data(df_total)
            mod.plot_total_arrivals(df_total)
```

Dashboard

```
*****
*                                     *
*   🌐 Welcome to the Indian Tourism Analysis   *
*           Dashboard by Tarun Kumar           *
*                                     *
*****
```

Select the type of plot:

1. Foreign Tourist Arrivals (FTAs) and NRIs Year-Wise
2. Distribution of ITA
3. Foreign exchange earnings (FEEs) from tourism vs FTA
4. Arrivals by Mode of Travel (Year-wise)
5. Statistics of ITAs to India based on Counts and Purpose
6. Countrywise contributions to the Indian tourism market.
7. Average Duration of Stay by Region and Country of Nationality.
8. Indian Tourism Statewise Statistics(foreign and domestic travellers) and Top 10 Tourism Destinations
9. Position of Indian Tourism in the world [2001 - 2021]

Enter 'q' to quit

Enter your choice:

Observation:

- India experienced consistent growth in inbound tourism from 2001 until the pandemic caused a decline. However, there has been a notable rebound in tourist arrivals in 2022.
- A rise in Foreign Tourist Arrivals (FTA) has a positive correlation with Foreign Exchange Earnings (FEEs), indicating a beneficial influence on the tourism industry.
- In 2015, a notable decline in air arrivals resulted from India opening the Haridaspur land border with Bangladesh. Many Bangladeshi tourists preferred cost-effective land travel.
- In 2019, 77.4% of Foreign Tourist Arrivals (FTAs) in India utilized air routes, with 21.7% via land and 0.9% via sea. Delhi and Mumbai airports collectively hosted 41.7% of total FTAs. Bangladesh topped the list of source markets, followed by the US, UK, Australia, and others. The top 15 countries contributed to 76.3% of total FTAs in India.
- The predominant purpose of tourist visits to India is Leisure Holiday and Recreation, constituting 57%, with Business and Professional visits following at 12%.
- Tamil Nadu leads in foreign tourist visits, followed by Maharashtra. For domestic tourism, Uttar Pradesh is the most visited state, followed by Tamil Nadu.

References:

- Bloom, Laura Begley. "*The World's 50 Most Beautiful Countries (You Won't Believe Where The U.S. Ranked)*". Forbes. Retrieved 17 August 2023.
- Data Source: <https://data.gov.in/>
- "Most Visited Countries 2021". *worldpopulationreview.com*. Archived from the original on 6 December 2021.
- "India Tourism Statistics at a Glance" (PDF). Archived (PDF) from the original on 31 October 2021.



**THANK
YOU**