Tourism in India Project Report

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Introduction

This report provides a detailed explanation of the "Tourism in India" Shiny app. The app is designed to display tourism-related data and visualizations for various parts of India, motorcycle tours, and travel information by month.

India is a land of diverse cultures, landscapes, and traditions which offers a captivating tapestry for tourists. Our project, "Exploring India's Hidden Gems," seeks to showcase the uncharted beauty and rich heritage of this incredible country. With a focus on sustainable and responsible tourism, we aim to promote lesser-known destinations, unique cultural experiences, and eco-friendly practices. Through this project, we aspire to foster economic growth in local communities, preserve India's natural wonders, and provide travelers with unforgettable journeys that go beyond the usual tourist trail. Join us on a transformative voyage through the heart of India and discover its untold stories.

Objective

This project aims to provide users with an immersive experience by offering a curated selection of the top ten most favorable places in each selected area.

Our Shiny app, 'Discover India's Treasures,' is a user-friendly platform designed to help travelers and enthusiasts explore the breathtaking beauty and cultural richness of India's diverse states and main regions.

Data Extraction and Preprocessing

We are extracting data from "https://en.wikipedia.org/wiki/Tourism_in_India (https://en.wikipedia.org/wiki/Tourism_in_India)".

Basically we collect the pictures name and the picture url.

We extracted tables as follows:-

table 1 for Foreign tourist arrivals in India (1997–20222).

table 2 for Foreign exchange earnings from tourism in India (1997–2020).

table_3 for Source countries for foreign tourist arrivals in India in 2019.

table 4 for Share of top 10 states/UT's of India in number of foreign tourist visits in 2017.

table 5 for Share of top 10 states/UT's of India in number of domestic tourist visits in 2017.

The app fetches data from web sources, primarily Wikipedia. It retrieves tables and images related to tourism in India.

we also try to scrap the places description and put this as a link in shiny app.

final_table for scrapped_final_table .

Data Visualization and Analysis

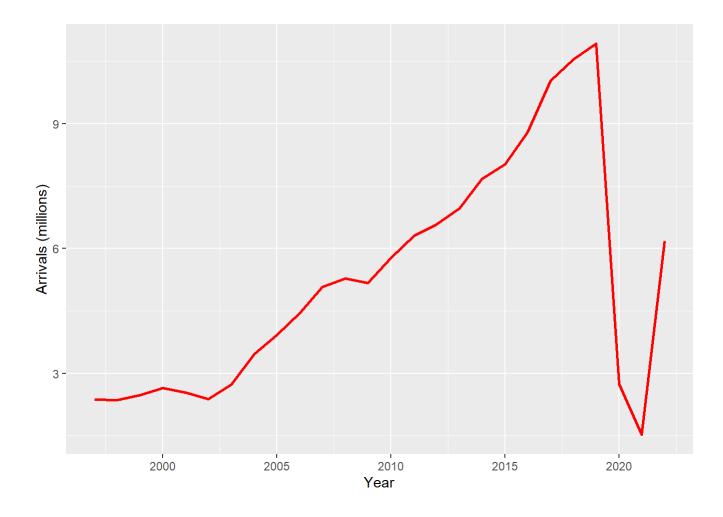
The app uses a combination of ggplot2 and DT for data visualization and analysis. Each of the following sections corresponds to a specific tab within the app.

Foreign Tourist Arrivals in India (1997 – 2022)

Year <int></int>	Arrivals (millions) % change <dbl> <chr></chr></dbl>
1997	2.37 3.8
1998	2.36 -0.7
1999	2.48 5.2
2000	2.65 6.7
2001	2.54 -4.2
2002	2.38 -6.0
2003	2.73 14.3
2004	3.46 26.8
2005	3.92 13.3
2006	4.45 13.5
1-10 of 26 rows	Previous 1 2 3 Next

Data Visualization

The "Foreign tourist arrivals in India (1997–2022)" tab presents a line plot showing the trend in foreign tourist arrivals over the years.



Insights

On an average the number of people Arrived (millions) (1997 - 2022)

[1] 5.269231

we can see that in 2019 because of covid pandemic the number arrivals go down and after 2021 there is increment in number of arrivals

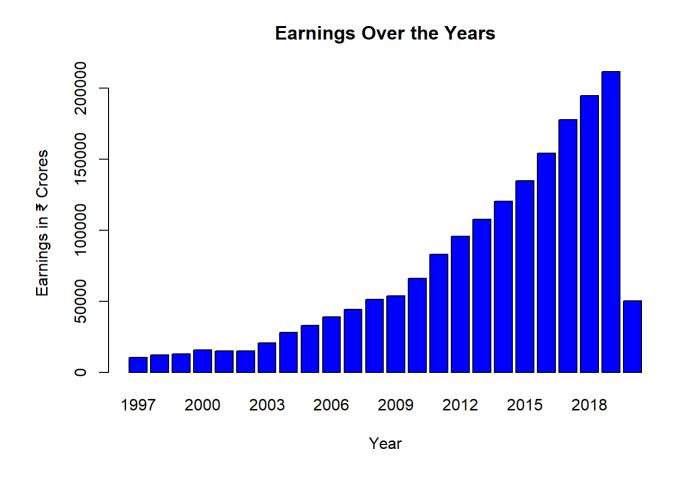
Foreign exchange earnings from tourism in India (1997–2020)

Year Earnings (US\$ million) <int> <chr></chr></int>	% change <chr></chr>	Earnings (₹ crores) <chr></chr>	% change <chr></chr>
1997 2,889	2.0	10,511	4.6
1998 2,948	2.0	12,150	15.6
1999 3,009	2.1	12,951	6.6
2000 3,460	15	15,626	20.7
2001 3,198	-7.6	15,083	− 3.5

Year Earnings (US\$ million) <int> <chr></chr></int>	% change <chr></chr>	Earnings (₹ crores) <chr></chr>)		% (<ch< th=""><th>char nr></th><th>nge</th></ch<>	char nr>	nge
2002 3,103	-3.0	15,064			-0.	1	
2003 4,463	43.8	20,729			37.	6	
2004 6,170	38.2	27,944			34.	8	
2005 7,493	21.4	33,123			18.	5	
2006 8,634	15.2	39,025			17.	8	
1-10 of 24 rows		Pi	revious	1	2	3	Next

Data Visualization

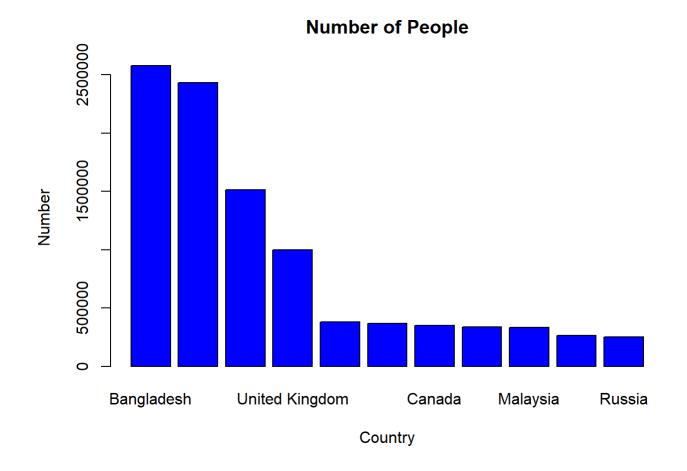
The "Foreign exchange earnings from tourism in India (1997–2020)" tab displays a bar chart showing earnings in Indian Rupees over the years.



Source countries for foreign tourist arrivals in India in 2019.

Rank <chr></chr>	Country <chr></chr>	Number <chr></chr>	Share in % <dbl></dbl>
1	Bangladesh	2,577,727	23.58
2	European Union	2,430,002	21.12
3	United States	1,512,032	13.83
4	United Kingdom	1,000,292	9.15
5	Sri Lanka	380,121	3.38
6	Australia	367,241	3.36
7	Canada	351,859	3.22
8	China (mainland)	339,442	3.11
9	Malaysia	334,579	3.06
10	Germany	264,973	2.42
1-10 of 12 rows		Pre	vious 1 2 Next

Data Visualization



Insights

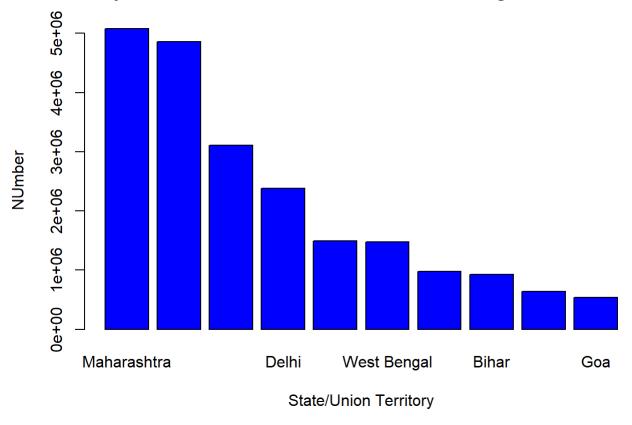
Bangladesh is the topmost country with 23.58 % share.

Share of top 10 states/UTs of India in number of foreign tourist visits in 2017.

Rank <chr></chr>	State/Union Territory <chr></chr>	Number <chr></chr>	Share in % <dbl></dbl>
1	Maharashtra	5,078,514	18.9
2	Tamil Nadu	4,860,455	18.1
3	Uttar Pradesh	3,104,062	13.3
4	Delhi	2,379,169	10.2
5	Rajasthan	1,489,500	6.4
6	West Bengal	1,475,311	6.3
7	Kerala	977,479	4.2
8	Bihar	923,737	4.0
9	Karnataka	636,502	2.7
10	Goa	541,480	2.3
1-10 of 13 rows		Previou	ıs 1 2 Next

Data Visualization

Share of top 10 states/UTs of India in number of foreign tourist visits in 2



Insights

Maharashtra of India is the topmost in number of foreign tourist visits with 18.9 %.

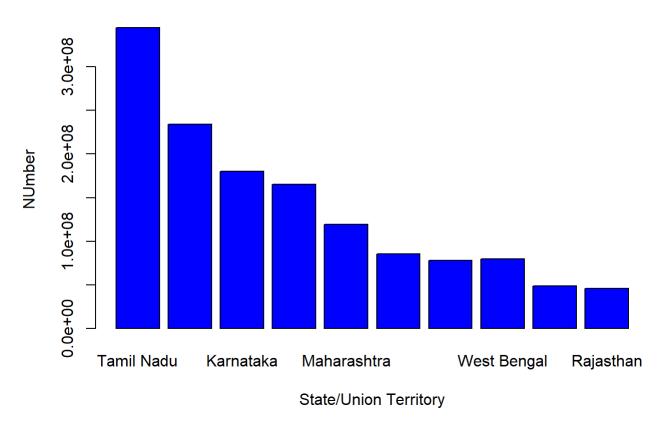
Share of top 10 states/UTs of India in number of domestic tourist visits in 2017.

Rank <chr></chr>	State/Union Territory <chr></chr>	Number <chr></chr>	Share in % <dbl></dbl>
1	Tamil Nadu	345,061,140	20.9
2	Uttar Pradesh	233,977,619	14.2
3	Karnataka	179,980,191	10.9
4	Andhra Pradesh	165,433,898	10.0
5	Maharashtra	119,191,539	7.2
6	Telangana	85,266,596	5.2
7	Madhya Pradesh	78,038,522	4.7

Rank <chr></chr>	State/Union Territory <chr></chr>	Number <chr></chr>	Share in % <dbl></dbl>
8	West Bengal	79,687,645	4.8
9	Gujarat	48,343,121	2.9
10	Rajasthan	45,916,573	2.8
1-10 of 13 rows		Previous	s 1 2 Next

Data Visualization

Share of top 10 states/UTs of India in number of domestic tourist visits in 2



Insights

Tamil Nadu of India is the topmost in number of domestic tourist visits with 20.9 %.

Final Table



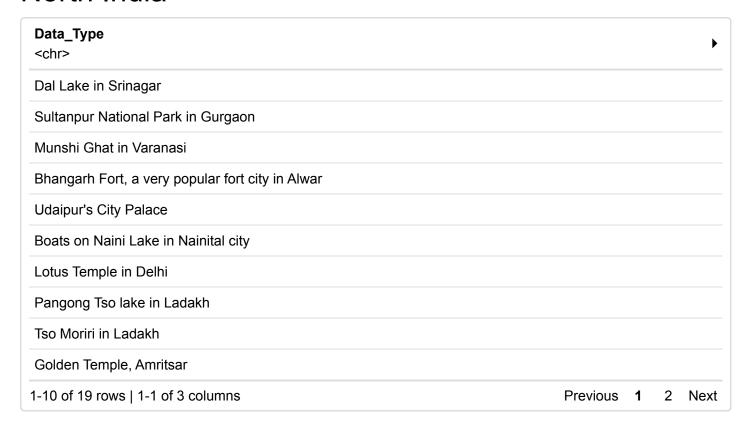
Place_to_Visit <chr></chr>									•
Sultanpur National Park in Gurgaon									
Munshi Ghat in Varanasi									
Bhangarh Fort, a very popular fort city in Alwar									
Udaipur's City Palace									
Boats on Naini Lake in Nainital city									
Lotus Temple in Delhi									
Pangong Tso lake in Ladakh									
Tso Moriri in Ladakh									
Golden Temple, Amritsar									
1-10 of 82 rows 1-1 of 2 columns	Previous	1	2	3	4	5	6	 9	Next

Main Parts of India

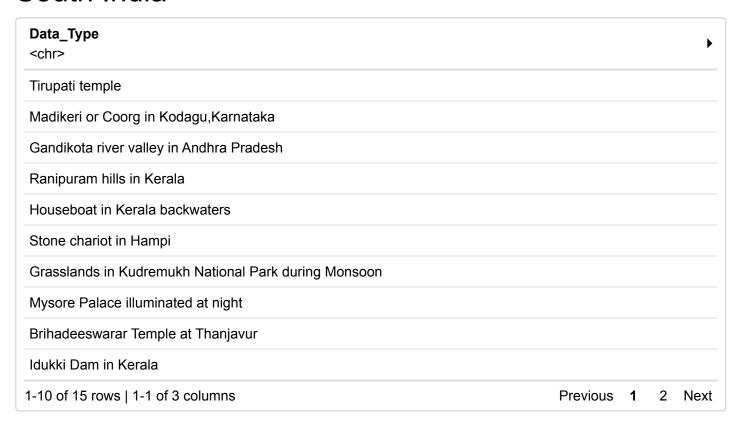
The "Main Parts of India" tab provides users with data related to different parts of India, including North, South, Central, West, East, and Northeast India. Users can select a specific region and view associated data.

Scrapped Tables

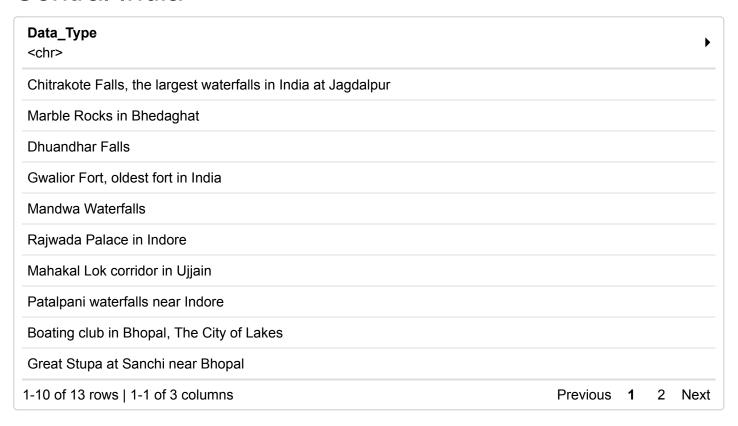
North India



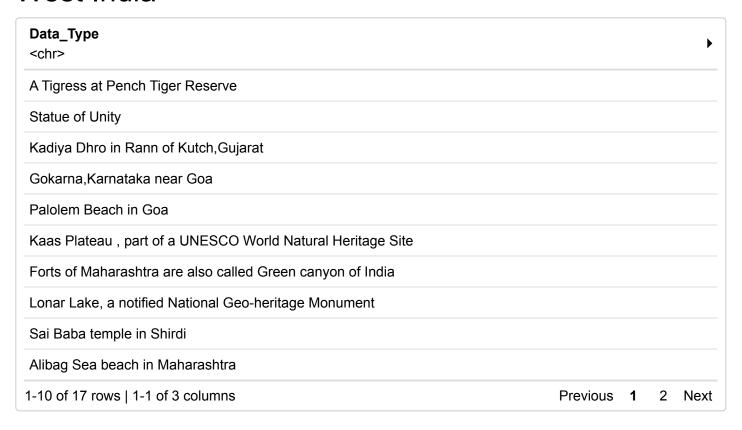
South India



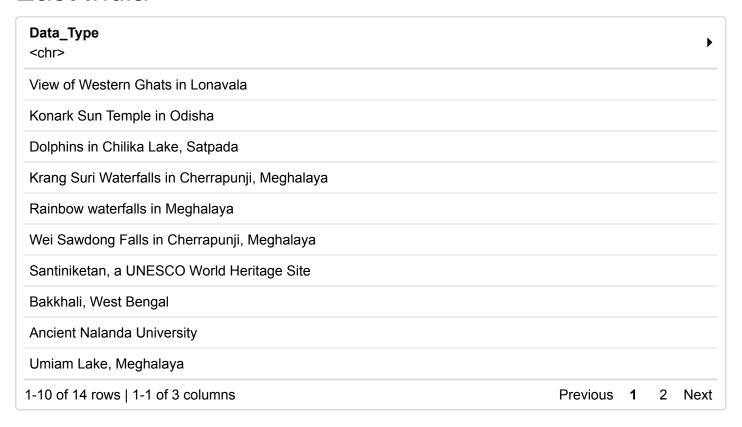
Central India



West India



East India



NorthEast India

Oata_Type chr>
emple of the Vedic Planetarium
Soecha La in Sikkim
Kaziranga in Assam
Sangtok from Tibet-Road
/I.G Marg in Gangtok
oktak Lake in Manipur
Sela Pass in Arunachal Pradesh
rows 1-1 of 3 columns

States/UT's

India is a diverse country so every state/UT's has some beautiful places to vist.

So we scrapped the top ten most favorable places to visit for each state.

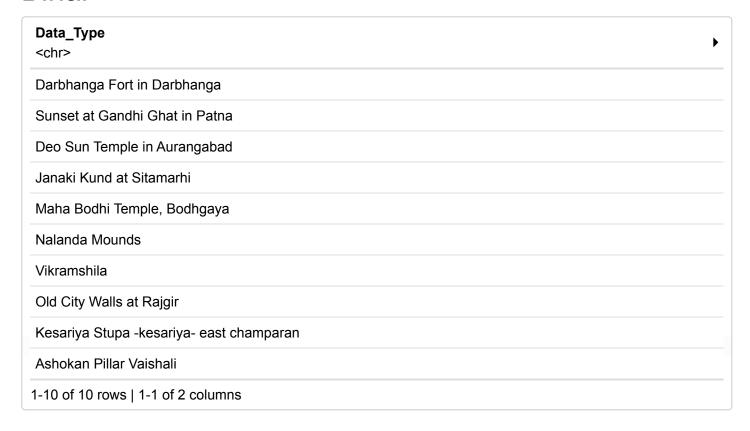
Scrapped Tables

Andhra Pradesh

Data_Type <chr></chr>	
Highest Man Made S	tone Nandi
Rock-cut cave ruins	at Ramatheerrtham in Vizianagaram district
Natural arch (water e	eroded) at Thotlakonda beach in Visakhapatnam
Bavikonda Buddhist	Monastic ruins, Visakhapatnam
A far View of the Flag	gstaff Dutch cemetery at Bheemunipatnam beach
Novotel beach resort	at Bheemunipatnam
R.K. Beach	
Thimmamma Marrim	anu is the largest, known tree in the world by area of canopy coverage.
Belum Caves	
Borra Caves in Visal	chapatnam district

1-10 of 10 rows | 1-1 of 2 columns

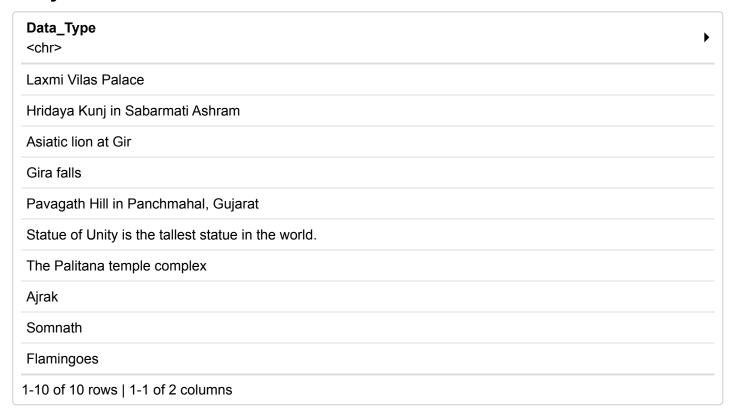
Bihar



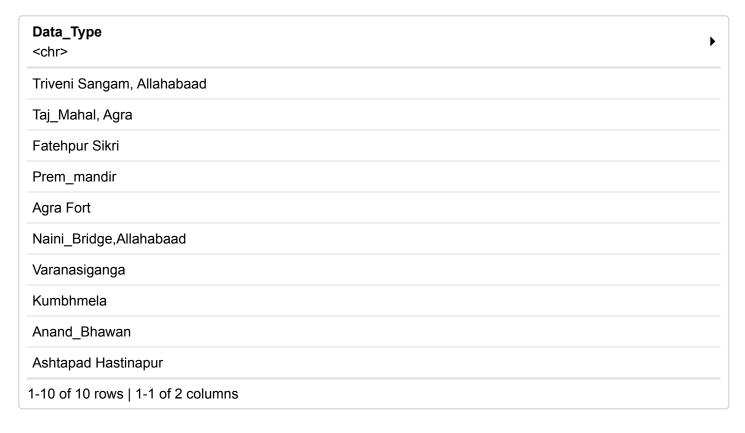
Chattisgarh

Data_Type <pre><chr></chr></pre>
Chitrakot_waterfalls
Tirathgarh Falls, Bastar
Mandawa waterfall, Bastar, CG
Chitra-Dhara waterfall, Bastar
Narhara waterfall, Dhamtari
Ghata-rani waterfall Gariyaband
Baloda-bazar
Gumadpal Shiv temple, near Tirathgarh(towards Katekalyan road)
Singhaigudi Shiv temple
Devarli temple, Dodrepal, Bastar
1-10 of 10 rows 1-1 of 2 columns

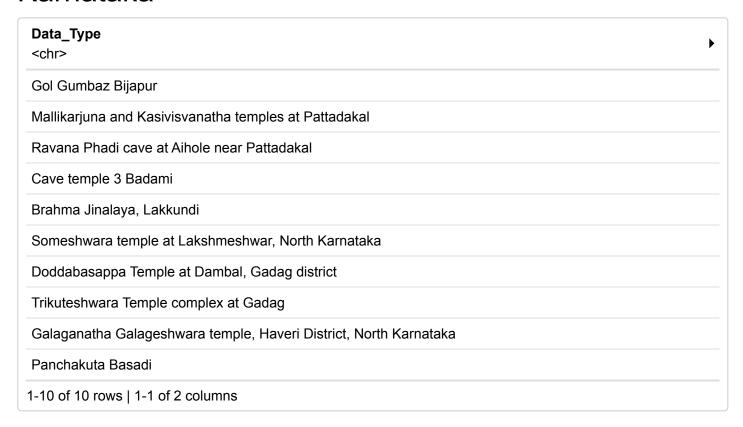
Gujarat



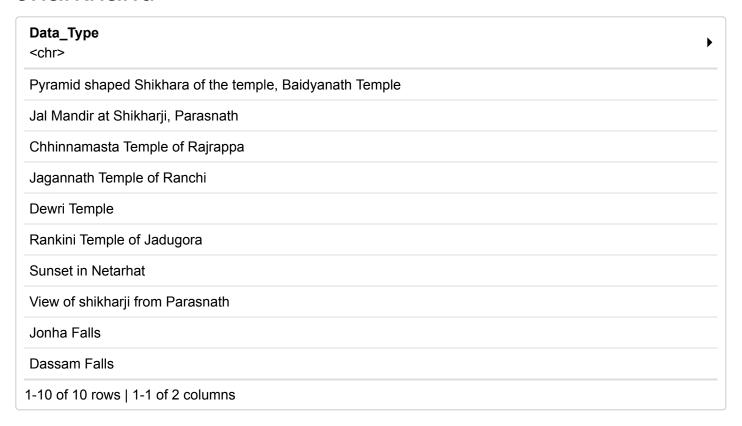
Uttar Pradesh



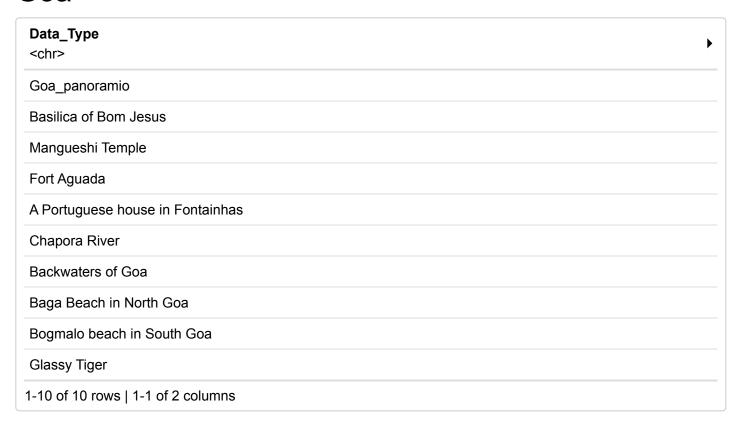
Karnataka



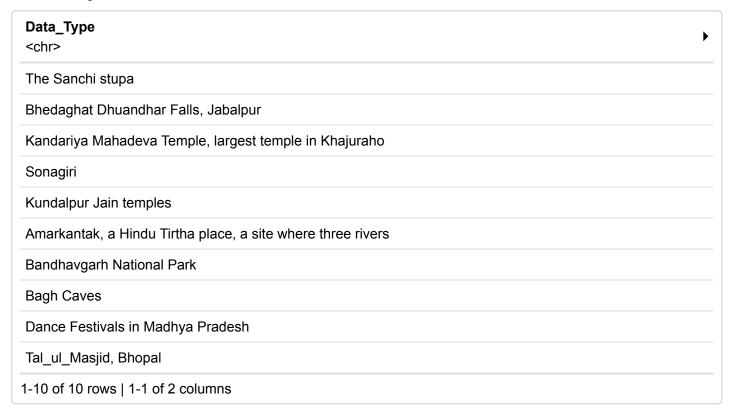
Jharkhand



Goa



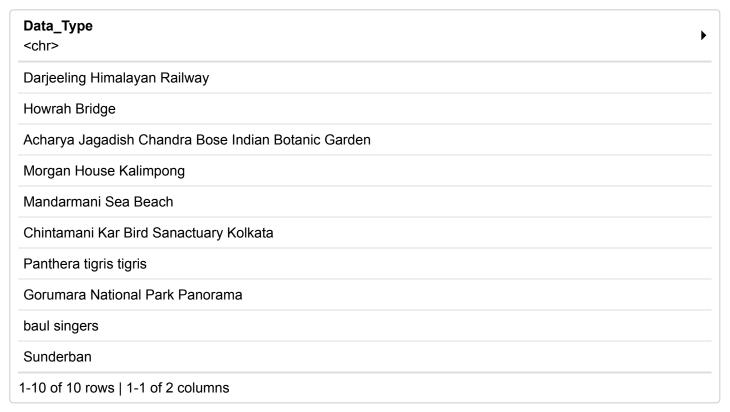
Madhya Pradesh



Assam

ata_Type chr>
rhino in Kaziranga National Park. The park is home to two-thirds of the world's great one-horned rhinoceroses
lephant safari in Kaziranga National Park
scenic tea estate of Assam
amakhya Temple
lajuli island
ameri national Park
ang ghar pavilions
rows 1-1 of 2 columns

West Bengal



Delhi



Data_Type chr>
Qutub minar
Red Fort
kshardham Temple
SKCON Temple
Digambar Jain Lal Mandir
Gurudwara Bangla Sahib
ama Masjid
Cathedral Church
lational War Memorial
10 of 10 rows 1-1 of 2 columns

Telangana



Uttrakhand



pata_Type chr>	•
amunotri temple and ashram	
Cedarnath Temple	
ungnath temple	
Rudranath temple	
Madhyamaheshwar Temple	
alpehswar	
lainital lake	
10 of 10 rows 1-1 of 2 columns	

TamilNadu

Data_Type <pre><chr></chr></pre>
Marina Beach
Tamil Nadu Flag
south of Chenna
Madurai Meenakshi
Gangaikonda Cholapuram Temple Gopuram
Thiruvannamalai Annamalaiyar Temple
Hogenakkal Falls bathing area
Parisal Boating in Hogenakkal falls
Pichavaram Mangrove Forest
Amman Temple
1-10 of 10 rows 1-1 of 2 columns

Kerala



Data_Type <pre><chr></chr></pre>
Kerala Houseboat
Kottappura nileshwaram house
Munnar Hillscape
Sithar Kundu View Point
Lightmatter lion tailed macaque
The View of the Athirapally Falls during the onset of Monsoon
Sea From Bakel
1-10 of 10 rows 1-1 of 2 columns

Rajasthan

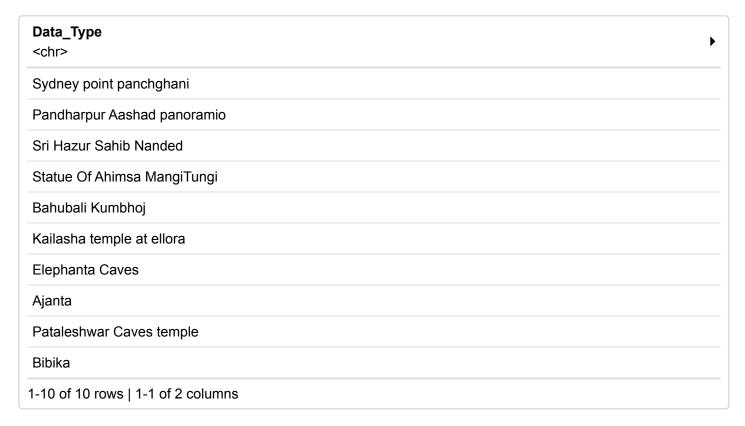


Odisha



Data_Type <pre><chr></chr></pre>
Lingaraj temple
Rajarani Temple
Chilika Lake
Barehipani Falls
Badaghagara Kendujhar
Khandhadhar Falls
Sanaghagara Kendujhar
-10 of 10 rows 1-1 of 2 columns

Maharastra



Andaman & Nicobar



Data_Type <chr></chr>	•
India Tourism Elephant	
Viper Island	
Andaman ross	
6 rows 1-1 of 2 columns	

Motorbike Tour

The "Motorbike Tour" tab offers information about motorcycle tours in India.

We scrapped data nearly 20 places to visit by motorbike from "https://www.thrillophilia.com/motorcycle-tours-in-india (https://www.thrillophilia.com/motorcycle-tours-in-india)".

Make a table named my_tibble which contains columns as :-

Tour

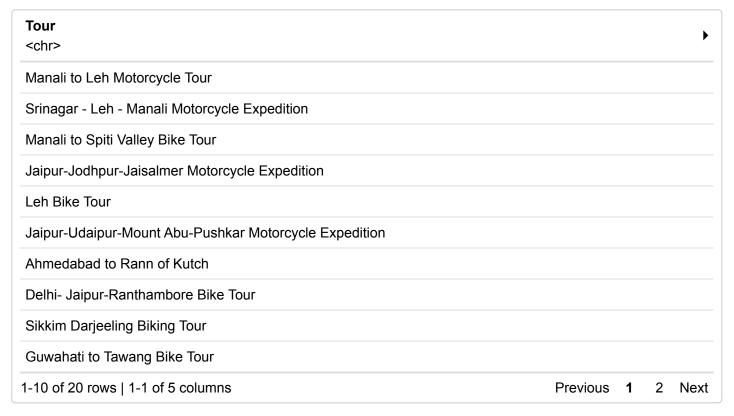
Description

Common Route Taken

Total Riding distance

Best Riding Season

Data Extraction and Preprocessing

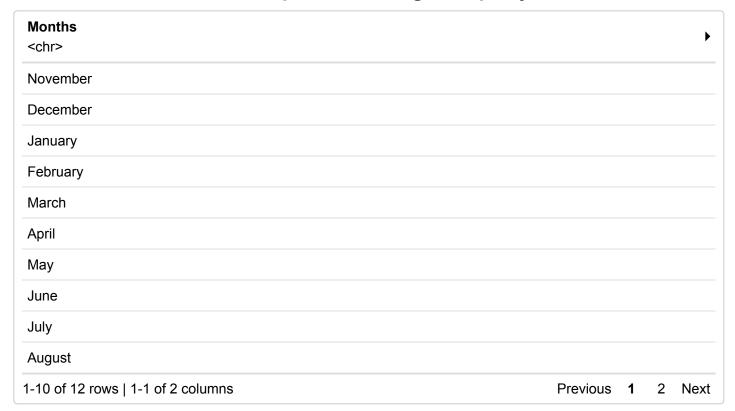


Travel Monthwise

In the "Travel Monthwise" tab, users can select a specific month to get travel information.

We extraced data from "https://www.tourism-of-india.com/travel-by-month.html (https://www.tourism-of-india.com/travel-by-month.html)".

Data Extraction, Preprocessing Display



User Interface and Interaction

The Shiny app provides a user-friendly interface with interactive elements, including dropdown menus and data tables. Users can interact with the app to select the data they want to explore.

Shiny App Code

```
ui <- fluidPage(</pre>
 tabsetPanel(
    tabPanel("Tables",
             titlePanel("Table and Graph"),
             sidebarLayout(
               sidebarPanel(
                 selectInput("tableType", "Select Table Type:", choices = table_list),
               ),
               mainPanel(
                 DTOutput("table"),
                 plotOutput("plot")
               )
             )),
    tabPanel("Main parts of India",
             titlePanel("Part Wise Tourist Place"),
             sidebarLayout(
               sidebarPanel(
                 selectInput("N_S", "Select", choices = table2_list),
                 uiOutput("data_type"),
                 uiOutput("pictures")
               ),
               mainPanel(
                 DTOutput("content")
             )
             ),
    tabPanel("States",
             tabPanel("States",
                      titlePanel("State Wise Tourist Place"),
                      sidebarLayout(
                         sidebarPanel(
                          selectInput("rajya", "State/Union Territory", choices = State_list),
                          uiOutput("data_type3"),
                          uiOutput("pictures3")
                        ),
                        mainPanel(
                          DTOutput("content3")
                        )
                      )
             )),
    tabPanel("Motorbike Tour",
             titlePanel("Bike Tour Table"),
             mainPanel(
               DTOutput("myTable")
```

```
)),
    tabPanel("Travel Monthwise",
             titlePanel("Travel by Month in India"),
             sidebarLayout(
               sidebarPanel(
                 selectInput("Month", "Select Month:", choices = Travel_by_Month_in_India$Month
s),
               ),
               mainPanel(
                 textOutput("Description")
               )
             ))
 )
)
server <- function(input, output) {</pre>
  datasetInput1 <- reactive({</pre>
    switch(input$tableType,
           "Foreign tourist arrivals in India (1997-2022)." = table_1,
           "Foreign exchange earnings from tourism in India (1997-2020)." = table 2,
           "Source countries for foreign tourist arrivals in India in 2019." = table_3,
           "Share of top 10 states/UTs of India in number of foreign tourist visits in 2017." =
table_4,
           "Share of top 10 states/UTs of India in number of domestic tourist visits in 2017." =
table 5,
           "Scrapped_data_table" = final_table
    )
  })
  output$table <- renderDT({</pre>
    datatable(
      datasetInput1(),
      escape = FALSE
    )
  })
  output$plot <- renderPlot({</pre>
    data <- datasetInput1()</pre>
    if (identical(data, table_1)) {
      ggplot(data = data) +
        geom_line(mapping = aes(x = Year, y = `Arrivals (millions)`), linetype = 1, linewidth =
1, color = "red")
    } else if (identical(data, table_2)) {
      # Assuming your data is in a tibble named table_2
      data$`Earnings (₹ crores)` <- as.numeric(gsub(",", "", gsub("-", "-", data$`Earnings (₹ cr
ores)`)))
      # Create a bar plot
```

```
barplot(data$`Earnings (₹ crores)`, names.arg = data$Year, col = "blue", main = "Earnings
Over the Years",
              xlab = "Year", ylab = "Earnings in ₹ Crores")
    } else if (identical(data, table 3)) {
      data <- data[-c(12),]</pre>
      # Assuming your data is in a tibble named table 2
      data$Number <- as.numeric(gsub(",", "", data$Number))</pre>
      barplot(data$Number, names.arg = data$Country, col = "blue", main = "Number of People",
              xlab = "Country", ylab = "Number")
    } else if (identical(data, table 4)) {
      data <- data[c(1:10),]</pre>
      # Assuming your data is in a tibble named table 2
      data$Number <- as.numeric(gsub(",", "", data$Number))</pre>
      barplot(data$Number, names.arg = data$`State/Union Territory`, col = "blue", main = "Share
of top 10 states/UTs of India in number of foreign tourist visits in 2017",
              xlab = "State/Union Territory", ylab = "NUmber")
    } else if (identical(data, table_5)) {
      data <- data[c(1:10),]
      # Assuming your data is in a tibble named table_2
      data$Number <- as.numeric(gsub(",", "", data$Number))</pre>
      barplot(data$Number, names.arg = data$`State/Union Territory`, col = "blue", main = "Share
of top 10 states/UTs of India in number of domestic tourist visits in 2017",
              xlab = "State/Union Territory", ylab = "NUmber")
    }
  })
  datasetInput <- reactive({</pre>
    switch(input$N_S,
           "North_India" = North_India,
           "South_India" = South_India,
           "Central_India" = Central_India,
           "West_India" = West_India,
           "East India" = East India,
           "NorthEast_India" = NorthEast_India
    )
  })
  output$data type <- renderUI({</pre>
    data <- datasetInput()</pre>
    selectInput("data_type", "Please Select", choices = data$Data_Type)
  })
```

```
output$pictures <- renderUI({</pre>
  data <- datasetInput()</pre>
  pictures_url <- data[data$Data_Type == input$data_type, "Picture_URL"]</pre>
  if (is.null(pictures_url) || length(pictures_url) == 0) {
    return(NULL)
  }
  pictures <- lapply(pictures_url, function(url) {</pre>
    tags$img(src = url)
  })
  div(pictures)
})
output$content <- renderDT({</pre>
  data <- datasetInput()</pre>
  datatable(data)
})
output$Description <- renderText({</pre>
  if (input$Month == "November")
  {
    Travel_by_Month_in_India$Description[1]
  } else if (input$Month == "December")
  {
    Travel_by_Month_in_India$Description[2]
  } else if (input$Month == "January")
  {
    Travel_by_Month_in_India$Description[3]
  } else if (input$Month == "February")
  {
    Travel_by_Month_in_India$Description[4]
  } else if (input$Month == "February")
  {
    Travel_by_Month_in_India$Description[4]
  } else if (input$Month == "March")
  {
    Travel_by_Month_in_India$Description[5]
  } else if (input$Month == "April")
  {
    Travel_by_Month_in_India$Description[6]
  } else if (input$Month == "May")
  {
    Travel_by_Month_in_India$Description[7]
  } else if (input$Month == "June")
    Travel_by_Month_in_India$Description[8]
  } else if (input$Month == "July")
    Travel_by_Month_in_India$Description[9]
  } else if (input$Month == "August")
```

```
{
    Travel_by_Month_in_India$Description[10]
  } else if (input$Month == "September")
    Travel_by_Month_in_India$Description[11]
  } else if (input$Month == "October")
    Travel_by_Month_in_India$Description[12]
  }
})
output$myTable <- renderDT({</pre>
  datatable(my_tibble)
})
datasetInput3 <- reactive({</pre>
  switch(input$rajya,
         "Andhra_Pradesh" = Andhra_Pradesh,
         "Bihar" = Bihar,
         "chattisgarh" = chattisgarh,
         "Gujarat" = Gujarat,
         "Uttar_pradesh" = Uttar_pradesh,
         "Karnataka" = Karnataka,
         "Jharkhand" = Jharkhand,
         "Goa" = Goa,
         "Madhya_Pradesh" = Madhya_Pradesh,
         "Assam" = Assam,
         "West_bengal"=West_bengal,
         "Delhi"=Delhi,
         "Telangana"=Telangana,
         "Uttrakhand"=Uttrakhand,
         "TamilNadu"=TamilNadu,
         "Kerala"=Kerala,
         "Rajasthan"=Rajasthan,
         "Odisha"=Odisha,
         "Maharastra"=Maharastra,
         "Andaman_and_Nicobar"=Andaman_and_Nicobar
  )
})
output$data_type3 <- renderUI({</pre>
  data <- datasetInput3()</pre>
  selectInput("data_type3", "Select the tour place", choices = data$Data_Type)
})
output$pictures3 <- renderUI({</pre>
  data <- datasetInput3()</pre>
  pictures_url3 <- data[data$Data_Type == input$data_type3, "Picture_URL"]</pre>
```

```
if (is.null(pictures_url3) || length(pictures_url3) == 0) {
    return(NULL)
}

pictures3 <- lapply(pictures_url3, function(url) {
    tags$img(src = url)
})

div(pictures3)
})

output$content3 <- renderDT({
    data <- datasetInput3()
    datatable(data)
})

}</pre>
```

Shiny applications not supported in static R Markdown documents

Questions

- 1. What are the current trends in tourism in India?
- 2. How "Tourism in India" contributes to the economic growth in India?
- 3. What is the role of technology in enhancing the tourist experience in India?

- 4. How can language barriers be managed for tourists visiting from non-English speaking countries?
- 5. What are the cultural sensitivities and customs that need to be considered when promoting tourism in India?
- 6. What are the environmental impacts of increased tourism in India and how can they be mitigated?
- 7. What are the limitations in terms of availability and affordability of accommodation for tourists in India?
- 8. How can the issue of over tourism in certain Indian destinations be managed?
- 9. How does the security issues impact tourism in India and what measures are inplace to insure the safety of Tourists?
- 10. How does the global pandemic affect the tourism industry in India?
- 11. How can infrastructure and transportation be improved to handle the influx of tourists in popular Indian destinations?
- 12. What are the roles of different stakeholders, including government, private sector, and local communities, in shaping Indian tourism?
- 13. How do political and social issues affect the tourism industry in India?

Challenges and Limitations

Challenges faced during app development and discuss potential limitations.

The data is too much nasty for Web Scrapping. Most of the time the name of the variables are not same so we have to set the variable names carefully.

Numerical dataset is not available so we are not able to do data analysis sufficiently.

Conclusion

Summarizing the main points of the report and emphasize the importance of the "Tourism in India" Shiny app.

Our main objective is to show the top ten most favorable places in states and main parts of India.

We also scrape some tables that can explain the tourism more in India.

The following tables are:-

Foreign tourist arrivals in India (1997–2022).

Foreign exchange earnings from tourism in India (1997–2020).

Source countries for foreign tourist arrivals in India in 2019.

Share of top 10 states/UT's of India in number of foreign tourist visits in 2017.

Share of top 10 states/UT's of India in number of domestic tourist visits in 2017.

States Table

Main Parts of India(North, South, Central, East, West, North East)

We also add description on the final table. If you want travel any place then you just click on Details to see the Description of that place.

We also scrap data related to Motorbike Tour which is most famous among the youngster.

If you want to travel Month wise in India you just select the month and the description will be seen.

Finally we try to make an app that is user friendly and easy to explain all the things related to Tourism(one of them is top ten most favorable places.)

Future Work

Provide suggestions for future improvements or additional features that can enhance the app.

We also want to add the description of the place below the photo make our shiny app more attractive and useful for enthusiastic tourists.

References

It utilizes data obtained from web sources such as Wikipedia

("https://en.wikipedia.org/wiki/Tourism in India (https://en.wikipedia.org/wiki/Tourism in India)"),

("https://www.tourism-of-india.com/travel-by-month.html (https://www.tourism-of-india.com/travel-by-month.html)"),

("https://www.thrillophilia.com/motorcycle-tours-in-india (https://www.thrillophilia.com/motorcycle-tours-in-india)"),

("https://www.tourism-of-india.com/travel-by-month.html (https://www.tourism-of-india.com/travel-by-month.html)").

The app makes use of several R packages, including shiny, rvest, dplyr, ggplot2, and DT.

THANK YOU