FINLATICS

PROJECT-2

The above-mentioned map showcases the various seasons that are experienced across states in India. A key focus of the map is on the onset and retreat of the South West Monsoons in the country across various states and regions.

The climates of India are mainly divided into four different groups. The classification of these groups is based on the Koppen climate classification system.

- **Tropical Wet (Humid):** The tropical wet (humid) climate group in India is separated into two subparts: the tropical wet and dry climate, often known as the savannah climate, and the tropical monsoon climate. A tropical monsoon climate prevails in the Western Ghats, the Malabar Coast, southern Assam, Lakshadweep, and the Andaman & Nicobar Islands. It has seasonally significant rain and moderate to high temperatures. The wettest months are May through November, and the rain that falls during this time is more than enough for vegetation to grow all year. The most typical climate in the nation is the savannah climate or a tropical wet and dry climate. Except for some areas of the Western Ghats, it is most prevalent throughout the country's inland peninsula. The humid summer months last from June to September, and they are extremely hot.
- **Tropical Dry:** There are three subgroups of the tropical dry climate group: (a) tropical semi-arid (steppe), (b) subtropical arid (desert), and (c) subtropical semi-arid (steppe). The tropical semi-arid (steppe) climate is found in Karnataka, central Maharashtra, some regions of Tamil Nadu, and Andhra Pradesh. In this type of environment, rainfall is quite unpredictable, and the hot, dry summers last from March through May. Western Rajasthan experiences a subtropical arid (desert) climate with irregular and sparse rainfall. The sub-tropical semi-arid (steppe) climate is present in the tropical desert regions that stretch from Punjab and Haryana to Kathiawar. In this environment, the summertime high temperature can reach 40°C, while rains are unpredictable and typically fall during the summer monsoon season.
- **Subtropical Humid Climate:** The majority of northern and northeastern India experiences this climate. Summers are quite hot, and winters can see temperatures as low as 0°C. The majority of the time, rain falls in the summer, however certain places also have snowfall or sporadic rain throughout the winter. The hottest months are May and June, while frost can sometimes be found in the winter for a few months.

- **Mountain Climate:** In the Himalayas, the temperature drops by 0.6°C for every 100 m of elevation gain, resulting in a variety of climates, from tropical to tundra. The northern side of the western Himalayas, known as the trans-Himalayan region, is chilly, dry, and windswept. In contrast to the well-exposed slopes, the leeward side of the mountains experiences less rain. The months of December through February saw the most snowfall.

Answer the following questions based on data collection and visualisation of data, using MS-Excel.

Study the map and draw out key indicating parameters in a list format. Also, think about other parameters that indirectly affect our goal.

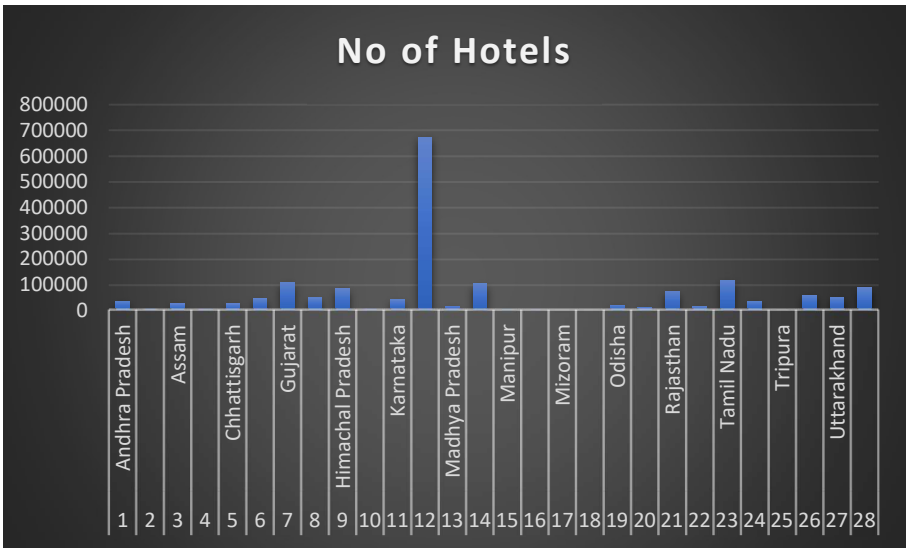
Collection of data.

Do descriptive and diagnostic analysis to fill the missing data points and scan the outliers.

Creation of separate sheets for each question and creating pivot tables accordingly.

Draw out conclusions by observing the visual charts made from the pivot tables.

1. Which state has the highest number of hotels? Depict this via a bar graph that compares all states.

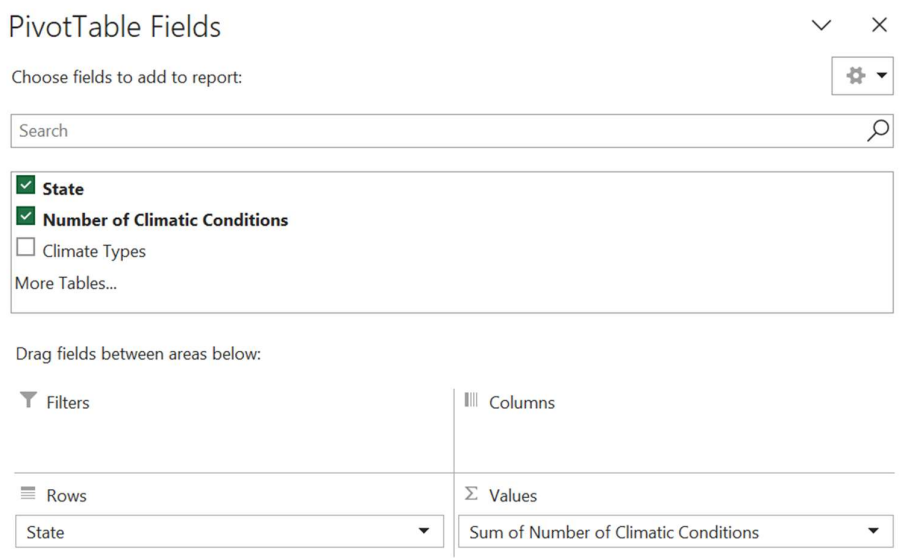


The bar graph displays the number of hotels across various states in India. Kerala has the highest number of hotels by a significant margin, while the other states have relatively similar and lower numbers of hotels.

2. Which states have three types of climatic conditions? (convert the map, an unstructured data, to an Excel file in a structured format and mention the number of climates along with the state)

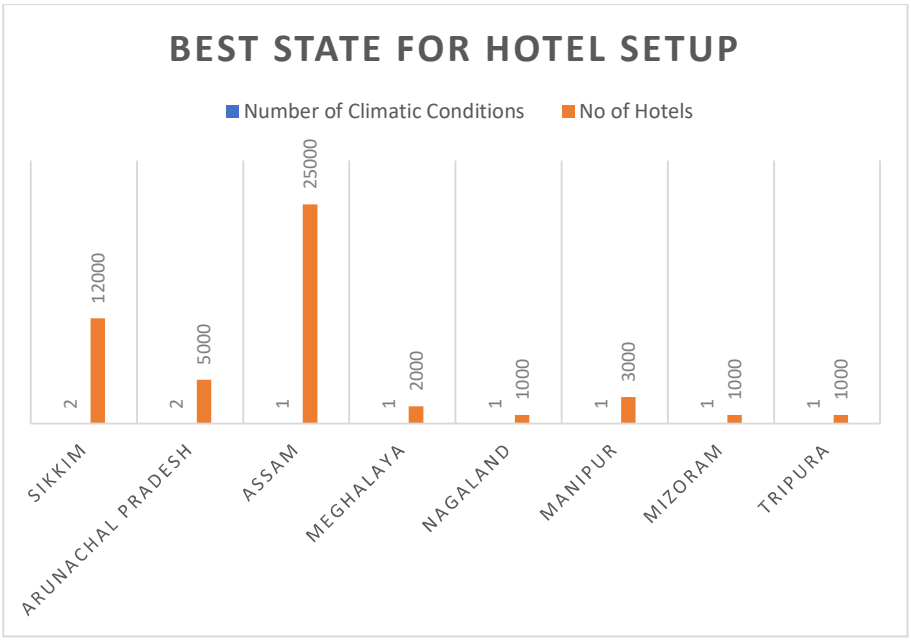
State	Number of Climatic Conditions
Jammu & Kashmir	2
Himachal Pradesh	3
Punjab	1
Uttarakhand	3
Haryana	2
Delhi	1
Rajasthan	3
Uttar Pradesh	2
Bihar	1
Sikkim	2
Arunachal Pradesh	2
Assam	1
Meghalaya	1
Nagaland	1
Manipur	1

Mizoram	1
Tripura	1
West Bengal	2
Jharkhand	1
Odisha	2
Chhattisgarh	1
Madhya Pradesh	2
Gujarat	2
Maharashtra	3
Goa	1
Karnataka	3
Kerala	1
Tamil Nadu	2
Andhra Pradesh	2
Telangana	1



Row Labels	Count of State
3	**5**
Himachal Pradesh	**1**
Montane climate, Humid subtropical, Tropical monsoon	1
Karnataka	**1**
Tropical monsoon, Tropical savannah (wet & dry), Humid subtropical	1
Maharashtra	**1**
Tropical savannah (wet & dry), Humid subtropical, Tropical monsoon	1
Rajasthan	**1**
Hot deserts/Arid, Tropical savannah (wet & dry), Humid subtropical	1
Uttarakhand	**1**
Montane climate, Humid subtropical, Tropical monsoon	1
Grand Total	**5**

3. Among the northeastern states which are best to set up a hotel? Use Clustered Column Chart and give recommendations for hotel industry investors.



Recommendations for Hotel Industry Investors:

1. Focus on States with Fewer Hotels and Multiple Climatic Conditions:

- Arunachal Pradesh and Sikkim have a relatively low number of hotels but multiple climatic conditions. Investing here could cater to diverse tourist preferences and potentially untapped markets.

2. Consider States with Moderate Hotel Density:

- Assam and Meghalaya have a moderate number of hotels and also present opportunities for growth. These states can attract tourists interested in varied climatic experiences.

3. Target States with High Climatic Diversity:

- States like Manipur, Meghalaya, and Mizoram have fewer hotels but a variety of climatic conditions. This diversity can be leveraged to attract tourists seeking unique weather experiences.

4. Potential for Luxury and Eco-Tourism:

- In states with fewer hotels such as Nagaland and Tripura, there is an opportunity to develop high-end or eco-friendly accommodations, which could attract niche markets and eco-conscious travelers.

5. Infrastructure Development:

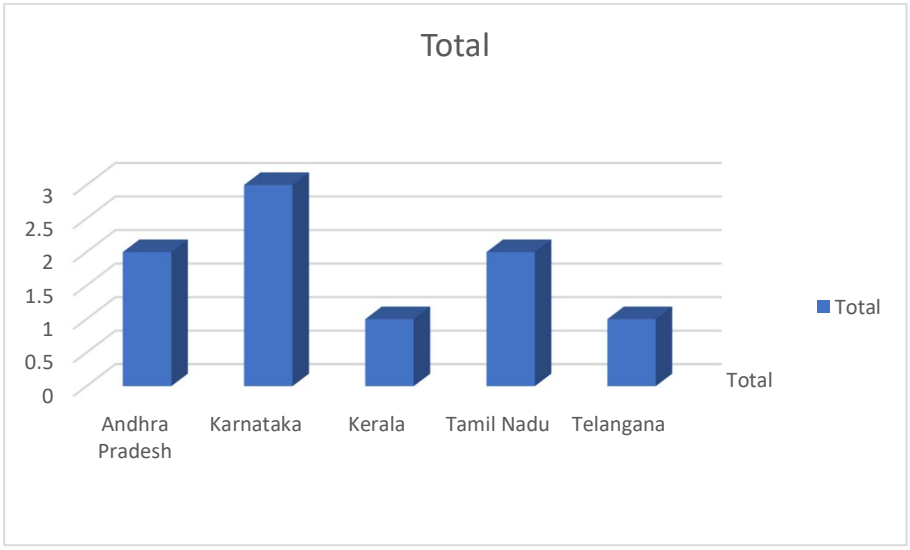
- Investors could focus on improving infrastructure and accessibility in states with high potential but low current hotel capacity, such as Arunachal Pradesh and Mizoram.

By strategically investing in these areas, the hotel industry can cater to a broader range of tourists and boost the tourism potential of the North Eastern states.

4. Customise the pivot charts to add/change the fields in the fields list with other fields and by using chart styles to customise the charts. (choose the data and parameters according to your choice)

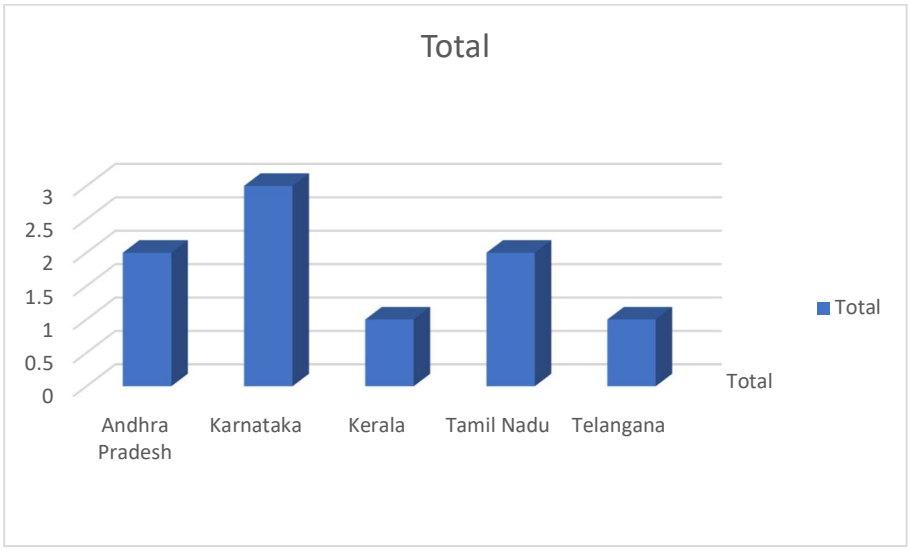
Data sample:

Row Labels	Sum of Number of Climatic Conditions
Andhra Pradesh	2
Arunachal Pradesh	2
Assam	1
Bihar	1
Chhattisgarh	1
Delhi	1
Goa	1
Gujarat	2
Haryana	2
Himachal Pradesh	3
Jammu & Kashmir	2
Jharkhand	1
Karnataka	3
Kerala	1
Madhya Pradesh	2
Maharashtra	3



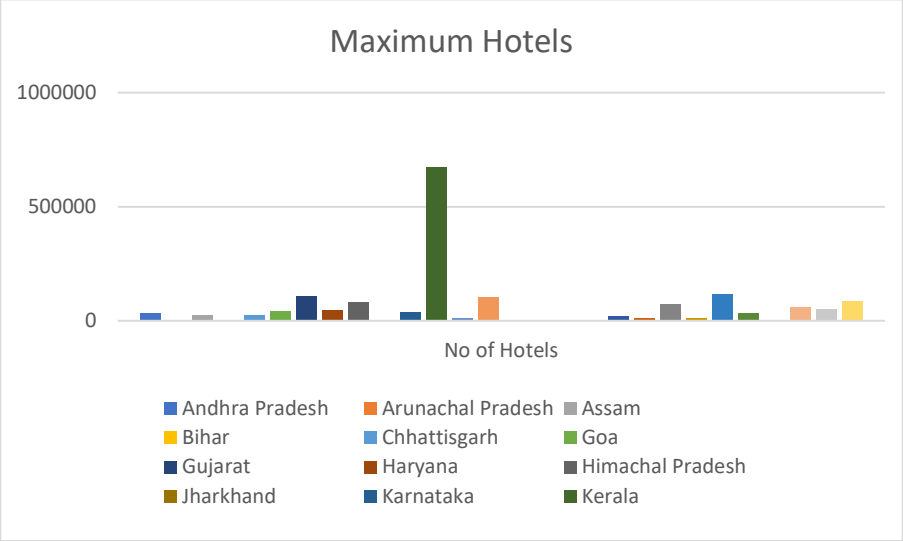
Customized pivot and chart styles:

Row Labels	Sum of Number of Climatic Conditions
Andhra Pradesh	2
Karnataka	3
Kerala	1
Tamil Nadu	2
Telangana	1
Grand Total	**9**



5. Which is the best state for setting up a hotel? Why?

Max number of Hotels	State
672000	Kerala



The state with the highest number of hotels is **Kerala**, with 672,000 hotels. The reasons:

- Kerala is a major tourist destination known for its beaches, backwaters, hill stations, and cultural attractions.
- The state offers diverse experiences, from ecotourism to medical tourism.
- Government initiatives have helped promote tourism in the state.
- The hospitality sector includes a range of accommodations, from luxury resorts to small homestays.
- Year-round pleasant climate supports continuous tourism.
- Unique offerings like houseboat stays set Kerala apart from other destinations.

6. What is the average number of days the rainy season lasts in Indian states?

Data extracted:

State	No of Hotels	Number of Climatic Conditions	Climate Types	Estimated Rainy Season (days)
Andhra Pradesh	34000	2	Tropical savannah (wet & dry), Tropical monsoon	105

Arunachal Pradesh	5000	2	Montane climate, Humid subtropical	90
Assam	25000	1	Humid subtropical	100
Bihar	4000	1	Tropical monsoon	120
Chhattisgarh	25000	1	Tropical monsoon	120
Goa	44000	1	Tropical monsoon	120
Gujarat	107000	2	Tropical savannah (wet & dry), Hot deserts/Arid	60
Haryana	48000	2	Tropical savannah (wet & dry), Hot deserts/Arid	60
Himachal Pradesh	83000	3	Montane climate, Humid subtropical, Tropical monsoon	100
Jharkhand	4000	1	Tropical monsoon	120
Karnataka	40000	3	Tropical monsoon, Tropical savannah (wet & dry), Humid subtropical	103.33
Kerala	672000	1	Tropical monsoon	120
Madhya Pradesh	14000	2	Tropical monsoon, Tropical savannah (wet & dry)	105
Maharashtra	102000	3	Tropical savannah (wet & dry), Humid subtropical, Tropical monsoon	103.33
Manipur	3000	1	Humid subtropical	100
Meghalaya	2000	1	Humid subtropical	100
Mizoram	1000	1	Humid subtropical	100
Nagaland	1000	1	Humid subtropical	100
Odisha	20000	2	Tropical monsoon, Tropical savannah (wet & dry)	105
Punjab	11000	1	Tropical savannah, wet & dry	90
Rajasthan	72000	3	Hot deserts/Arid, Tropical savannah (wet & dry), Humid subtropical	73.33
Sikkim	12000	2	Montane climate, Humid subtropical	90
Tamil Nadu	116000	2	Tropical savannah (wet & dry), Tropical monsoon	105
Telangana	34000	1	Tropical savannah, wet & dry	90
Tripura	1000	1	Humid subtropical	100
Uttar Pradesh	58000	2	Tropical monsoon, Humid subtropical	110
Uttarakhand	50000	3	Montane climate, Humid subtropical, Tropical monsoon	100
West Bengal	87000	2	Tropical monsoon, Humid subtropical	110

Formula: =AVERAGE(E2:E29)

Average
99.9996

The analysis of rainy season duration across Indian states reveals an average of approximately 100 days (precisely 99.99964 days). This figure, derived from a dataset combining hotel numbers and climate types for 28 states, reflects India's diverse climate patterns. The average aligns closely with the typical 3–4-month monsoon season experienced in many parts of the country.