Data Analyst Portfolio

All code samples are hosted at ***https://github.com/krishna-radhakrishnan/PortfolioProject***

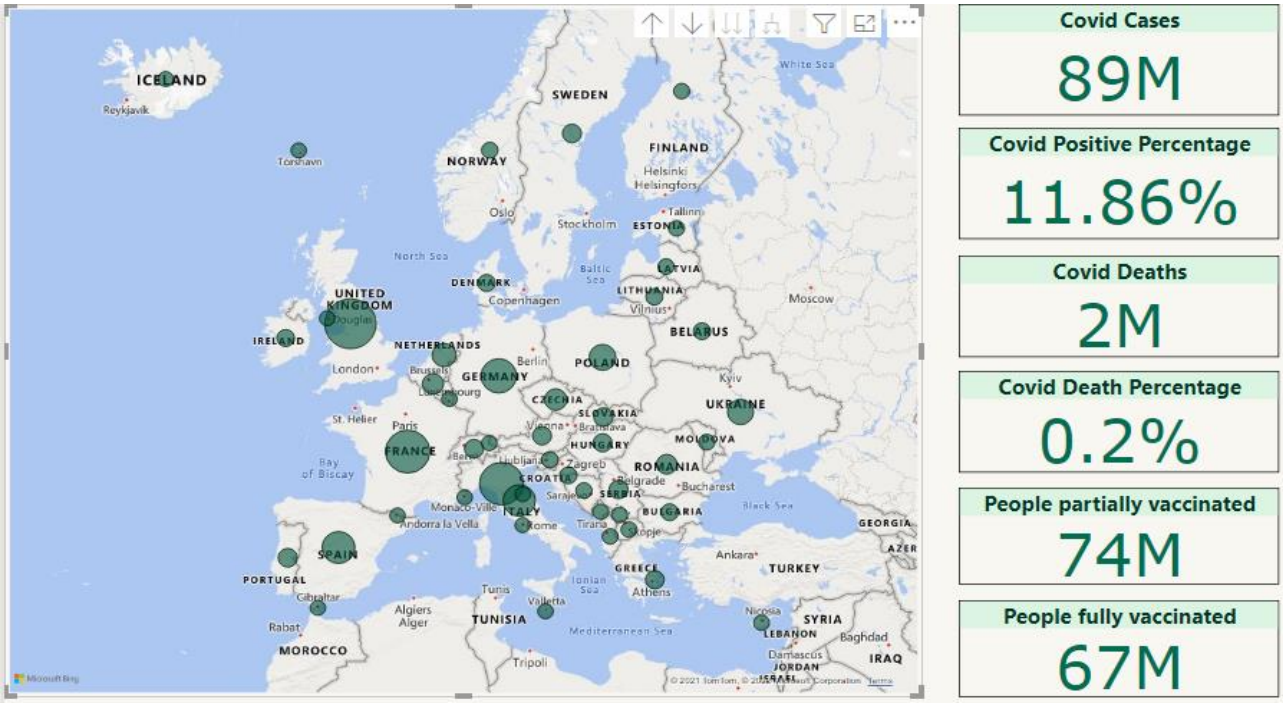
Data Analytics and Report Design

The following report was designed in Microsoft Power BI using data for Covid'19 Deaths and Vaccinations, from the "Our World in Data" website.

Concepts used in the report:

- Map, Clustered Column Chart, Line Chart, Doughnut Chart, Treemap
- Slicer visual to dynamically filter values in the report
- Drill down and drill through features
- Date wise report on covid cases, deaths and vaccinations
- Bookmark, Selection and Buttons to toggle between different charts
- Visual level filter to display only top vaccinated countries
- Calculated Measures using DAX
- Null value checks, data consistency checks and other data cleanses done with Power BI
- Data transformations using Merge queries
- Data model (Star Schema) creation

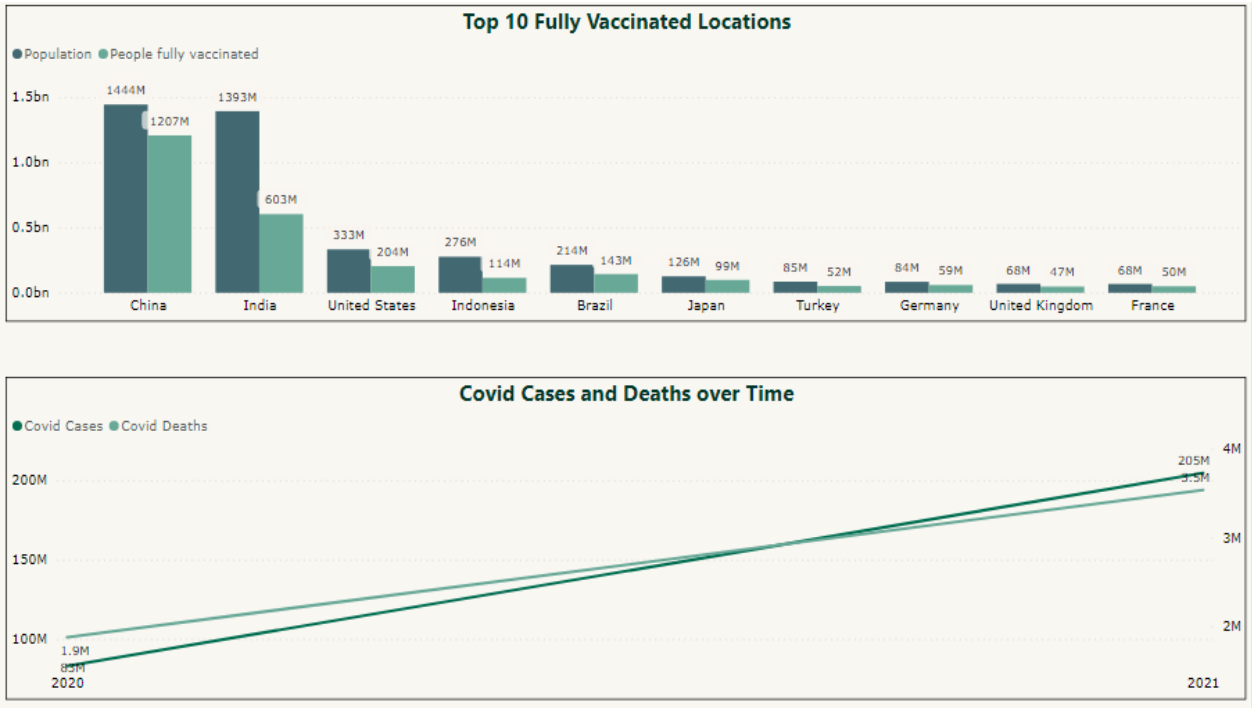
Drill down feature on Europe continent



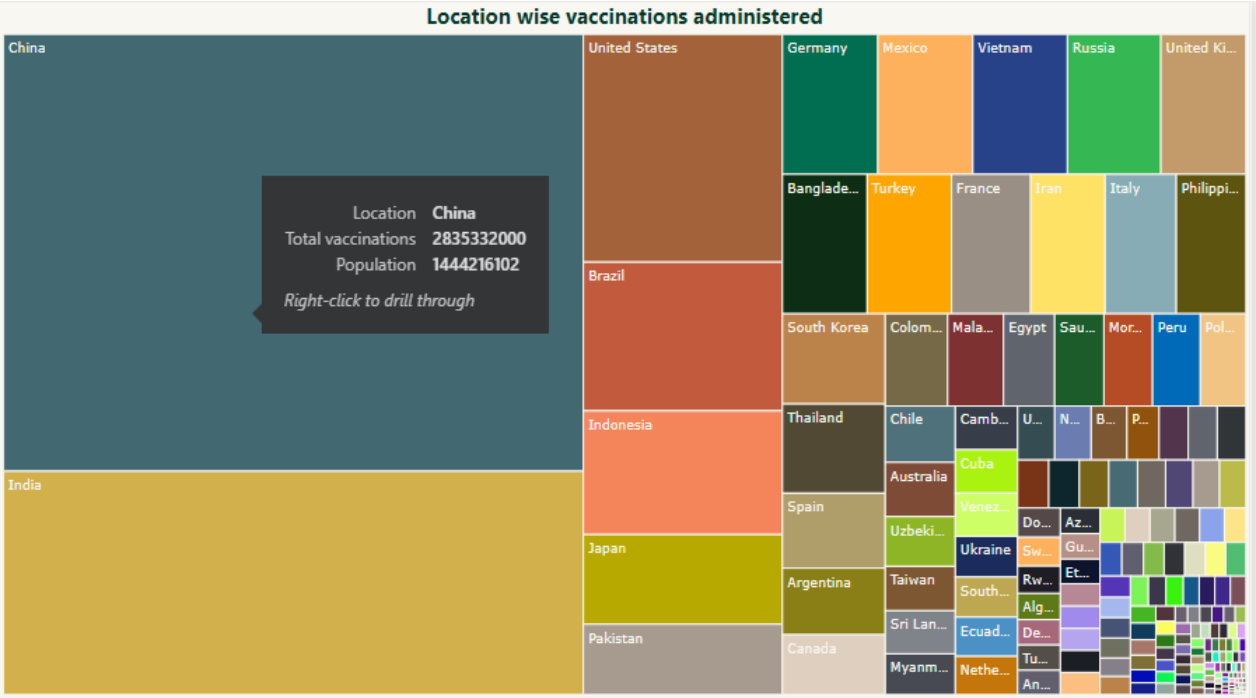
Drill through on the map on Germany location to the detailed report

Continent	Location	date	New Cases	Total Cases	New Deaths	total_deaths	People partially vaccinated	People fully vaccinated	Population
Europe	Germany	22 September 2021	10920	4173357	114	93243	56236061	52965472	83900471
Europe	Germany	23 September 2021	10315	4183672	67	93310	56327117	53102718	83900471
Europe	Germany	24 September 2021	8934	4192606	60	93370	56408550	53237667	83900471
Europe	Germany	25 September 2021	6423	4199029	28	93398	56441768	53304291	83900471
Europe	Germany	26 September 2021	5271	4204300	11	93409	56459746	53341280	83900471
Europe	Germany	27 September 2021	4798	4209098	100	93509	56509251	53423923	83900471
Europe	Germany	28 September 2021	7409	4216507	67	93576	56582807	53536979	83900471
Europe	Germany	29 September 2021	12267	4228774	67	93643	56661138	53665292	83900471
Europe	Germany	30 September 2021	10999	4239773	72	93715	56739569	53791525	83900471
Europe	Germany	01 October 2021	9288	4249061	66	93781	56783666	53856982	83900471
Europe	Germany	02 October 2021	6482	4255543	10	93791	56797308	53875206	83900471
Europe	Germany	03 October 2021	4951	4260494	7	93798	56802721	53883010	83900471
Europe	Germany	04 October 2021	4507	4265001	89	93887	56834977	53931462	83900471
Europe	Germany	05 October 2021	7763	4272764	76	93963	56890163	54021738	83900471
Europe	Germany	06 October 2021	11636	4284400	68	94031	56948497	54120841	83900471
Europe	Germany	07 October 2021	11476	4295876	86	94117	57011044	54224596	83900471
Europe	Germany	08 October 2021	9758	4305634	65	94182	57068957	54313433	83900471
Europe	Germany	09 October 2021	6894	4312528	24	94206	57085225	54336056	83900471
Europe	Germany	10 October 2021	5909	4318437	7	94213	57092030	54345449	83900471
Europe	Germany	11 October 2021	4909	4323346	95	94308	57121726	54391132	83900471
Europe	Germany	12 October 2021	7928	4331274	85	94393	57171960	54473596	83900471
Europe	Germany	13 October 2021	12317	4343591	14	94407	57227428	54566116	83900471
Europe	Germany	14 October 2021	11578	4355169	123	94530	57283130	54661239	83900471
Europe	Germany	15 October 2021	11664	4366833	75	94605	57331700	54740940	83900471

Clustered Column Chart and Line Chart

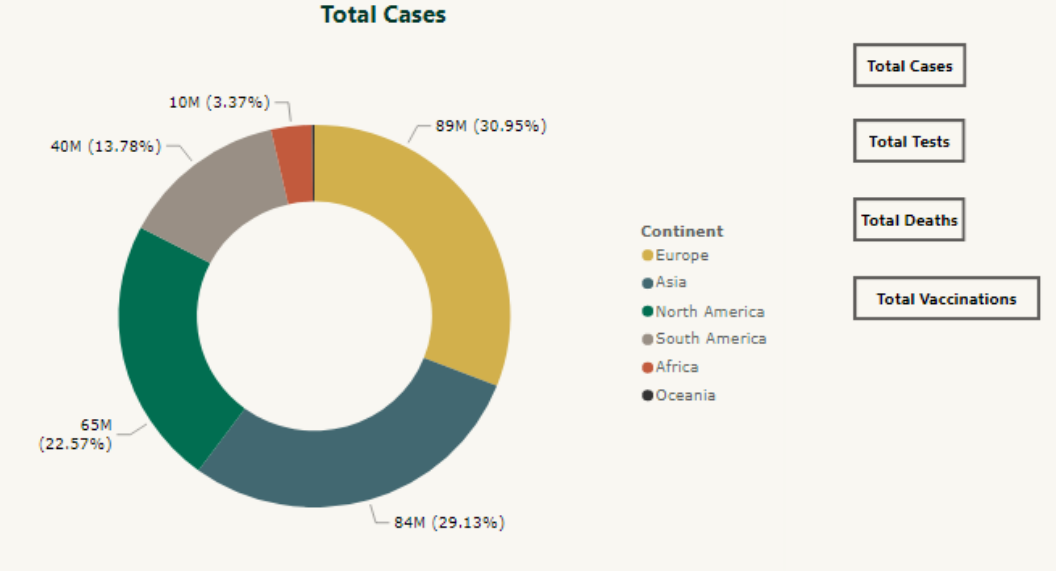


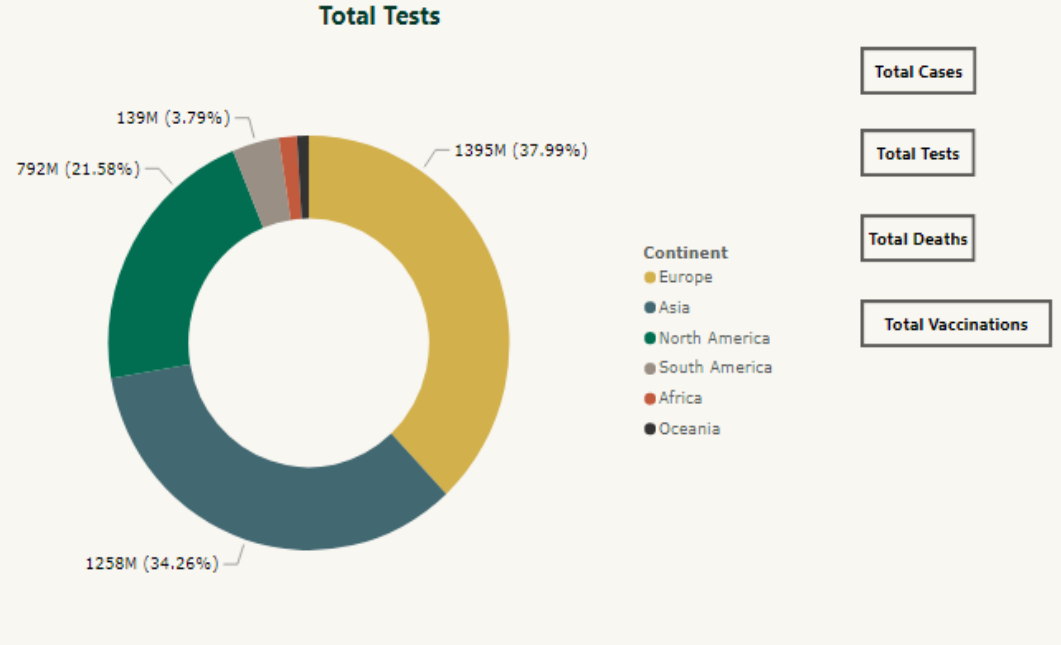
Treemap

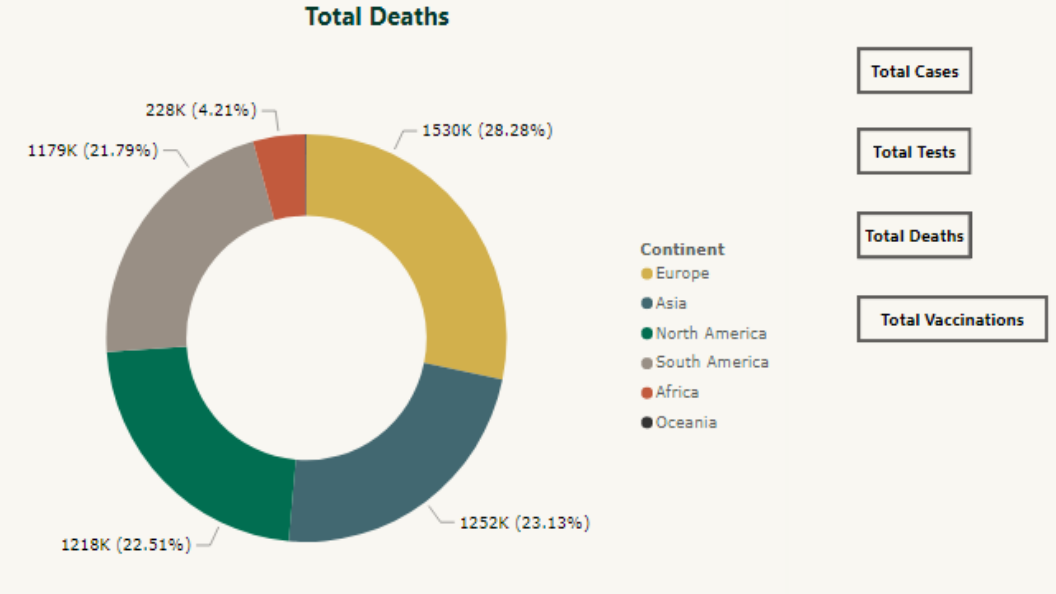


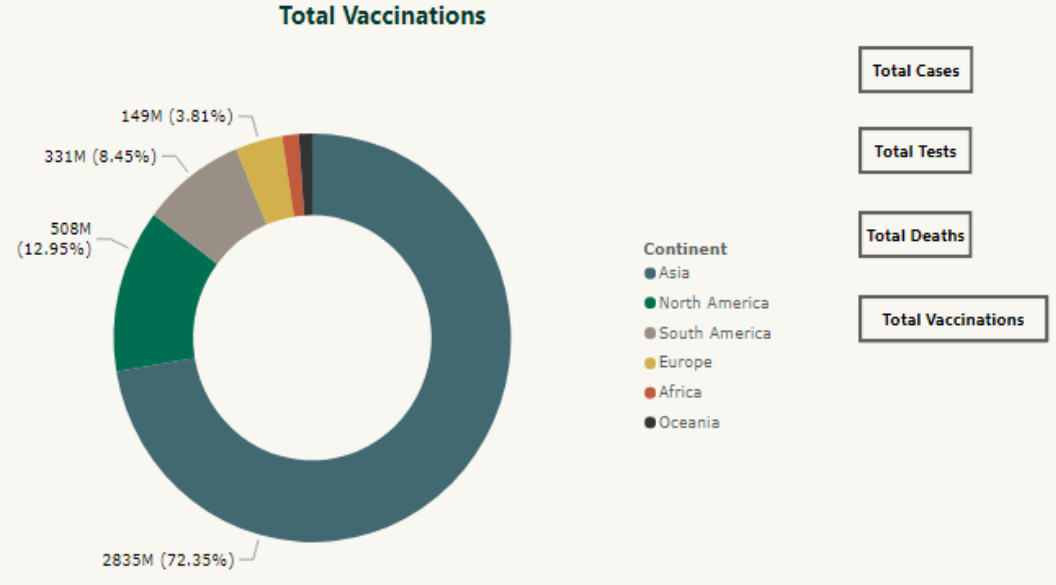
Doughnut Charts

Clicking on buttons to toggle between charts









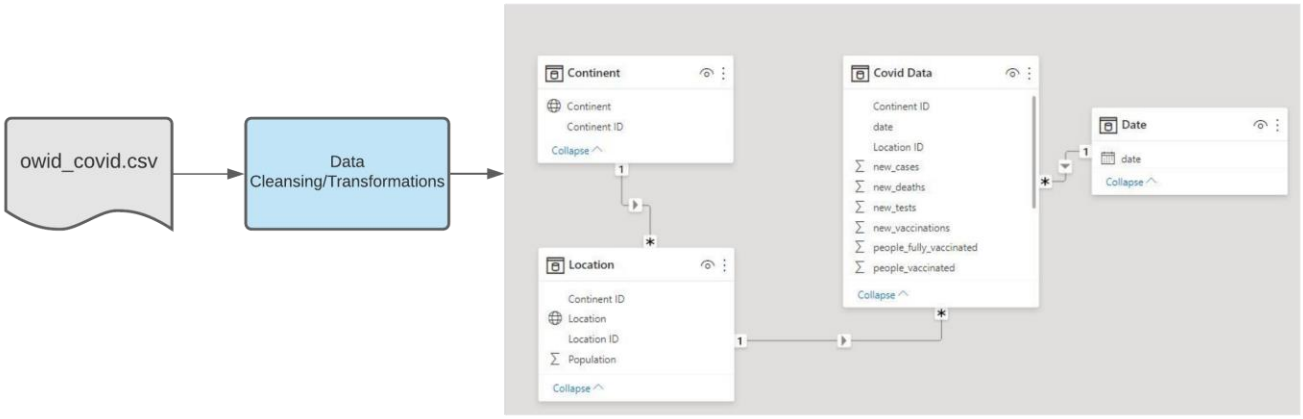
Calculated Measures using DAX

```
Covidpositive Percentage = CONCATENATE(ROUND((SUM('Covid Data'[new_cases])/SUM('Location'[Population]))*100,2),"%")
```

```
Deathpercentage = CONCATENATE(ROUND((SUM('Covid Data'[new_deaths])/SUM('Location'[Population]))*100,2),"%")
```

Data Architecture

The data was downloaded as a single CSV file containing all the data as columns. Analysis was done on the data by importing it into Power BI, cleansed by removing null values, duplicates and unwanted columns, filtering rows and replacing values. Data transformations were done by merging queries, renaming and reordering columns and a data model was created on top of it. Different visuals were created from this data model which helps in analyzing the data more efficiently.



Future Work:

- Create more calculated measures and columns using DAX
- Create more visuals
- Publish Covid Report to Power BI service
- Create a dashboard from this report
- Implement RLS (Row-level security) to restrict data across different locations for different roles