



Shri Vile Parle Kelavani Mandal's

**DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**

(Autonomous College Affiliated to the University of Mumbai)

NAAC Accredited with "A" Grade (CGPA : 3.18)



**Department of Computer Science and Engineering (Data Science)**

## **Lab Manual**

**Subject: Foundations of Data Analysis Laboratory (DJ19DSL303)**

**Semester: III**

**Experiment 5**

**(Data Visualization)**

**Name: Dev Patel**

**SAP ID:60009200016**

**Batch: K/K1**

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**Aim:** Perform data visualization using highlight tables.

**Theory:**

### **Highlight Tables**

- The highlight table allows us to use conditional formatting to a view of a normal table.
- Tableau will automatically apply a colour scheme in either endless or stepped array of colours from highest to lowest.
- It's great for comparing a field's values within a row or column.
- Use highlight tables to match categorical data using colour.
- Highlight tables are often outstanding as they help users quickly spot the foremost interesting values during a table of numbers.
- In cases where multiple variables are displayed, Measure Values are often used to apply one colour scheme to all or any of the values in a table.
- Unless the variables are very similar, highlighting multiple variables is typically not helpful and can mislead.



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### Tool Used:

Tableau Public 2021.3

### Datasets:



World  
Indicators\_Migrated C

### Visualizations:

- Q) **The UN also has an Advisory Role. It advises countries on things that require improvement/change. Use a Highlight table to find if any of the countries with a large population require changes.**

**The Highlight table would be used to compare the parameters with other countries in order to evaluate if anomalies are present.**

**Health and/or Development Metrics should be used for the same.**

The below visualization is Health and Development indicator for the countries, which are sorted in order of their population. From the highlight table, we can say that China and India have low average percentage expenditure on health. They can be advised to spend more money in the health sector. As the average energy usage of the United States is too high, they should be advised to use renewable sources of energy more and conserve power. Sierra Leone has the highest infant mortality rate and the lowest average life expectancy. The United Nations can make plans to help them in those aspects as required. We can also see that United States has a very high average tourism outbound, Uganda has the highest birth rate, Japan has the highest life expectancy and several other inferences can be made from the visualization allowing the UN to advise the countries accordingly.



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Country/Region	Avg. Birth Rate	Avg. Health Exp % GDP	Avg. Infant Mortality Rate	Avg. Life Expectancy	Avg. Energy Usage	Avg. Tourism Outbound
China	1.23%	4.80%	0.020	74.38 Years	1,840.00K	\$33B
India	2.30%	4.12%	0.054	64.69 Years	576.97K	\$8B
United States	1.38%	16.12%	0.007	78.15 Years	2,250.94K	\$87B
Indonesia	2.07%	2.65%	0.032	69.08 Years	181.08K	\$6B
Brazil	1.76%	8.10%	0.020	72.38 Years	223.46K	\$11B
Pakistan	2.74%	3.02%	0.076	65.80 Years	79.11K	\$1B
Russia	1.00%	5.20%	0.015	66.00 Years	649.55K	\$17B
Bangladesh	2.30%	3.20%	0.051	68.00 Years	23.87K	\$0B
Japan	0.87%	8.76%	0.003	82.78 Years	496.09K	\$40B
Germany	0.88%	10.78%	0.004	78.75 Years	338.12K	\$75B
Turkey	2.00%	5.30%	0.029	72.00 Years	77.83K	\$2B
Thailand	1.20%	3.50%	0.015	73.00 Years	101.04K	\$6B
Iran	1.90%	4.60%	0.029	70.00 Years	122.98K	\$1B
Spain	1.10%	9.60%	0.004	82.00 Years	127.73K	\$23B
South Africa	2.30%	8.60%	0.053	53.00 Years	117.37K	\$4B
Colombia	2.00%	6.80%	0.016	74.00 Years	32.24K	\$2B
Tanzania	4.10%	5.40%	0.060	55.00 Years	17.07K	\$1B
Poland	0.99%	6.43%	0.007	75.29 Years	92.71K	\$5B
Uganda	4.50%	9.20%	0.051	57.00 Years		\$0B
Sudan	3.60%	7.50%	0.058	61.00 Years	15.54K	\$1B
Canada	1.10%	11.40%	0.005	81.00 Years	250.99K	\$37B
Algeria	2.10%	3.10%	0.029	70.00 Years	32.34K	\$1B
Finland	1.10%	9.03%	0.002	80.67 Years	34.88K	\$6B
Togo	3.80%	5.90%	0.070	54.00 Years	2.33K	\$0B
Slovakia	1.03%	7.20%	0.008	74.69 Years	18.02K	\$1B
Sierra Leone	4.00%	14.00%	0.122	44.00 Years		\$0B
Paraguay	2.80%	8.10%	0.028	70.00 Years	3.85K	\$0B
Papua New Guinea	3.50%	4.00%	0.058	59.00 Years		\$0B
Nicaragua	2.60%	6.10%	0.027	72.00 Years	2.82K	\$0B
Libya	2.30%	4.10%	0.022	73.00 Years	17.44K	\$1B
Laos	3.10%	3.30%	0.083	62.00 Years		\$0B
Kyrgyzstan	2.60%	6.75%	0.028	69.50 Years	2.64K	\$0B
Jordan	3.00%	8.90%	0.020	73.00 Years	6.68K	\$1B
Eritrea	3.90%	3.40%	0.042	61.00 Years	0.68K	
Denmark	1.20%	9.55%	0.004	77.67 Years	19.48K	\$7B

