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Data Analyst and Project Management Course

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WHO LIFE EXPECTANCYDATA PROJECT

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Background

- Background in IT and introducing new tech in fortune 500 companies as a project manager office support role

Experience/Qualification

- BA Hons Marketing Management
- Post Graduate International Business
- Full Stack Development Black CodHer bootcamp
- 10 years project management experiece and I have been running my own business as a consultant

"Hi! I'm Victoria
I'm learning to become a data analyst!"

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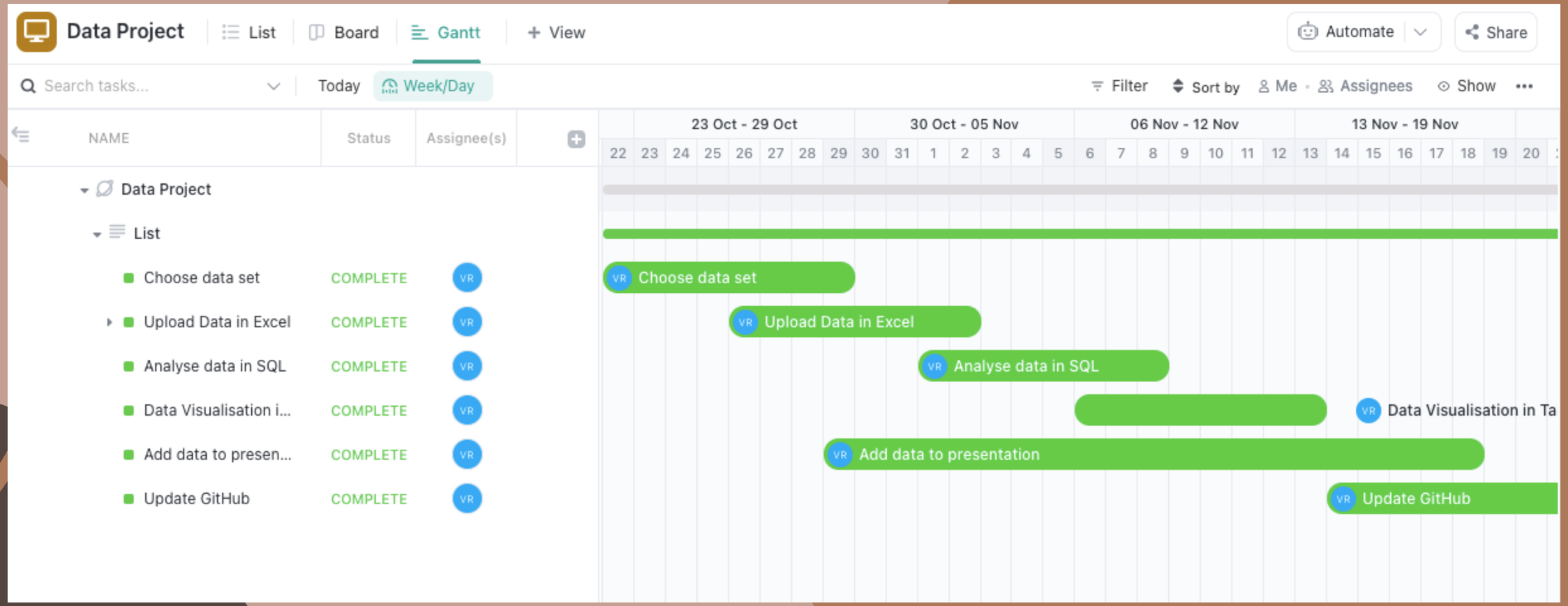
Planning



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EXCEL ANALYSIS

Using COUNTIF Function and SUM Function	
Formulae = (COUNTIF($C$2:$C$2891, "=REGION"))/17	
Number of Coutries in Each Region	**Region**
44	Africa
32	Americas
17	Eastern Mediterranean
47	Europe
9	South-East Asia
21	Western Pacific
170	**Total =SUM(A:A) number of countries in this dataset**

Using MAX/MIN Function = MAX(A:A) / =MIN(B:B)	
84.17	Finding the value for the maximum life expectancy
36.23	Finding the value for the lowest life expectancy

Using XLOOKUP Function	
Finding the country with the MAX and MIN life expectancy	
Formulae = XLOOKUP(A1,D2:D2891,A2:A2891)	
84.17	Japan
36.23	Haiti

SQL ANALYSIS

```
-- I want to see the top ten countries with the highest life Expectancy for 2010
SELECT life_expectancy, (country)
FROM who_life_ex.who_lifex
WHERE year = 2010
ORDER BY life_expectancy DESC
LIMIT 10;

-- I want to see the bottom ten countries with the lowest life Expectancy for 2010
SELECT life_expectancy, (country)
FROM who_life_ex.who_lifex
WHERE year = 2010
ORDER BY life_expectancy
LIMIT 10;

-- Haiti was the lowest in 2010, but this was also the year of the earth quake that killed more than 222000,
-- which means the data has outside influences from what is captured in this dataset that affects life expectancy.
```

Result Grid

life_expectancy	country
49.2	Sierra_Leone
49.59	Central_African...
51.45	Eswatini
51.91	Chad
52.25	Lesotho
52.37	Nigeria
52.51	Cote_dIvoire
55.05	Mozambique
55.38	Cameroon

SQL ANALYSIS

```sql
-- Wanting to find the top 10 Life Expectancy countries by their average
SELECT country, AVG (life_expectancy)
FROM who_life_ex.who_lifex
GROUP BY country
ORDER BY avg(life_expectancy) DESC
LIMIT 10;

-- Wanting to find the bottom 10 Life Expectancy countries by their average
SELECT country, AVG (life_expectancy)
FROM who_life_ex.who_lifex
GROUP BY country
ORDER BY avg(life_expectancy)
LIMIT 10;
```

Result Grid

country	AVG (life_expectanc...
Japan	82.75352941176472
Switzerland	81.84764705882354
Australia	81.5429411764706
Iceland	81.50882352941179
Italy	81.49
Spain	81.39117647058823
Sweden	81.15999999999998
Singapore	81.07
Canada	81.06823529411764
France	81.02941176470588

country	AVG (life_expectanc...
Sierra_Leone	46.79117647058824
Central_African...	48.21411764705883
Lesotho	49.92823529411765
Eswatini	50.26058823529412
Chad	50.83235294117646
Nigeria	51.192352941176466
Cote_dIvoire	51.48470588235294
Mozambique	53.53588235294119
Zambia	53.604705882352945
Mali	53.724117647058826

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Problem Solving

Cleaning data

My original database has alot of missing data. For Brazil for the first population data set, found the difference between the population growth each year (from 2005 - 2001) avg the difference each year then minus that from the previous year to the missing data.

Why isn't my SQL working?!?

One of the countries has an accent which stopped my data uploading past the first 500 entries. I also used SUBSTITUTE formulae to remove all of the spaces

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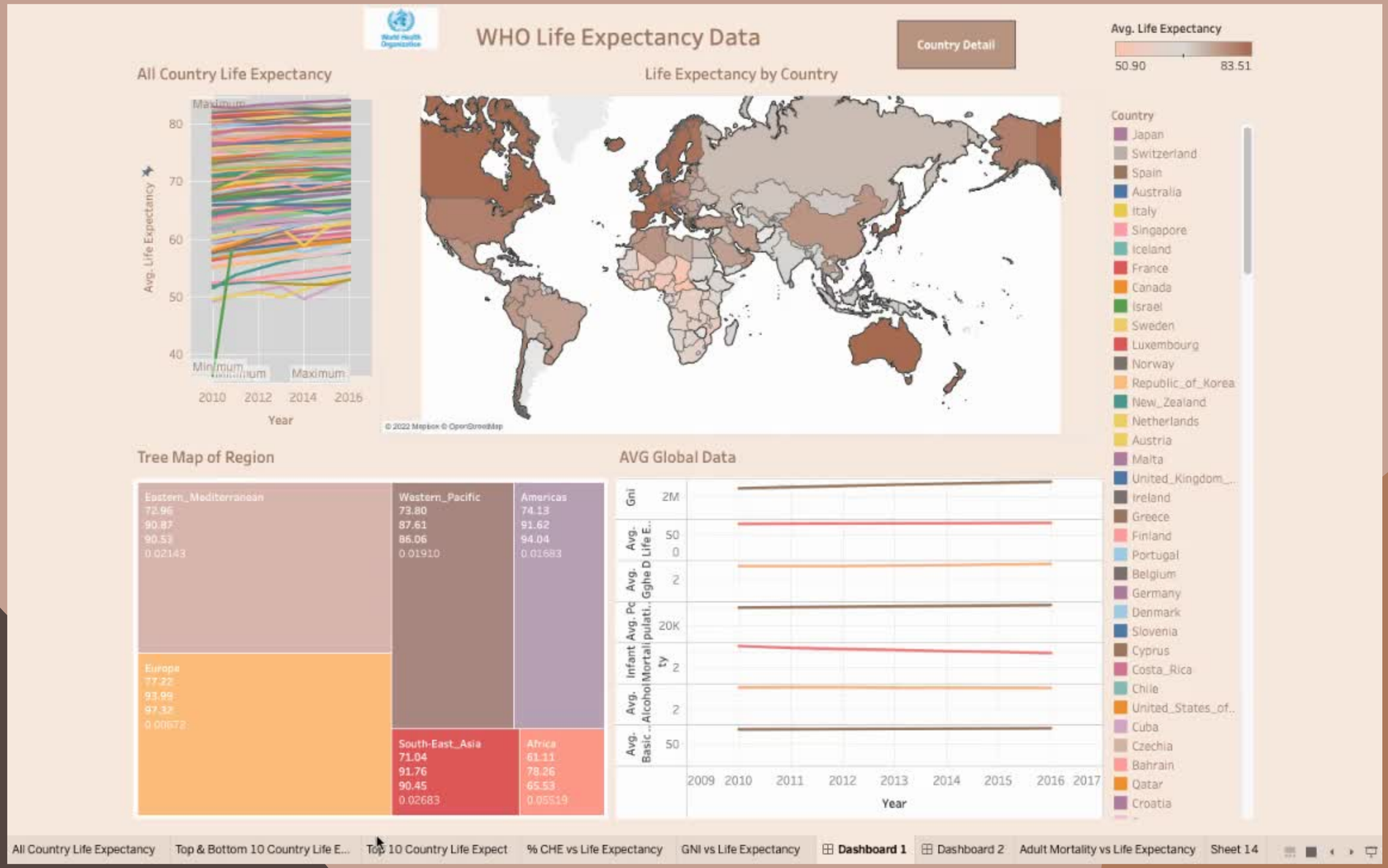
DATA VISUALISATION



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Findings

Summary and Trends

Globally there is an increase in population, GNI, access to basic water, immunisation against measles, polio and alcohol consumption and infant mortality is on the decrease, which explains why life expectancy is on the rise.

My hypothesis that wealth in a contributing factor to increased life expectancy can be interpreted as correct, however it is also more nuanced than that.

Once we breakdown countries but the top 10 Life Expectancy and the Bottom 10 Life Expectancy, there is a big wealth divide between these cohorts, the bottom 10 being significantly less wealthy, but when you get into the detail the richest country does not have the highest life expectancy, and the poorest country does not have the lowest life expectancy.

The lower life expectancy countries have significantly lower immunisations, access to clean water and higher infant mortality. I would argue that investing in these areas could lead to higher life expectancy. A trend does show however that each year this improves, and life expectancy is increasing, however the gap between the high income, and low income countries is still large (30yrs in some case).

With a foundation of high immunisations, and higher spending on healthcare for the top 10 life expectancy countries, I would argue that it shifts from life expectancy to a discussion about longevity. The richest country (Japan) with the highest immunisation (Israel) doesn't have the highest life expectancy. I would argue this data doesn’t capture what causes a population to live longer, and that question could be answered by the Blue Zones Dataset which focuses on the highest number of people that live to 100 across the world, and the patterns across those countries that cause people to live longer. From this dataset it identifies lifestyle choices, and diet, which contribute to longevity, Japan again having the highest number of centurions.

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What I've learnt

"Spreadsheets excite me! I know a little strange but now I get to join my passion for numbers with storytelling!"

- **Data**

  Cleaning data, I've furthered my Excel skills and learnt how to use SQL, Python, and data visualisation

- **Problem solving and collaboration**

  My ability to ask for help and work with others have been enhanced.

- **The technical world is less intimidating**

  I feel more equipped go grow in this area and take a seat at the table.

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Thank you for listening!

ANY QUESTIONS?