Overview of datasets

Country Dataset

	Country Code	Region	IncomeGroup	SpecialNotes	TableName	Unnamed: 5
0	ABW	Latin America & Caribbean	High income	SNA data for 2000-2011 are updated from offici...	Aruba	NaN
1	AFG	South Asia	Low income	Fiscal year end: March 20; reporting period fo...	Afghanistan	NaN
2	AGO	Sub-Saharan Africa	Lower middle income	NaN	Angola	NaN
3	ALB	Europe & Central Asia	Upper middle income	NaN	Albania	NaN
4	AND	Europe & Central Asia	High income	WB-3 code changed from ADO to AND to align wit...	Andorra	NaN

Population Dataset

	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	...	2007	2008	2009	2010	2011	2012
0	Aruba	ABW	Population, total	SP.POP.TOTL	54211.0	55438.0	56225.0	56695.0	57032.0	57360.0	...	101220.0	101353.0	101453.0	101669.0	102053.0	102577.0
1	Afghanistan	AFG	Population, total	SP.POP.TOTL	8996351.0	9166764.0	9345868.0	9533954.0	9731361.0	9938414.0	...	26616792.0	27294031.0	28004331.0	28803167.0	29708599.0	30696958.0
2	Angola	AGO	Population, total	SP.POP.TOTL	5643182.0	5753024.0	5866061.0	5980417.0	6093321.0	6203299.0	...	20997687.0	21759420.0	22549547.0	23369131.0	24218565.0	25096150.0
3	Albania	ALB	Population, total	SP.POP.TOTL	1608800.0	1659800.0	1711319.0	1762621.0	1814135.0	1864791.0	...	2970017.0	2947314.0	2927519.0	2913021.0	2905195.0	2900401.0
4	Andorra	AND	Population, total	SP.POP.TOTL	13411.0	14375.0	15370.0	16412.0	17469.0	18549.0	...	82683.0	83861.0	84462.0	84449.0	83751.0	82431.0
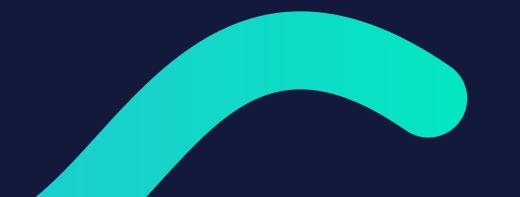
Fertility rate Dataset

	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	...	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0	Aruba	ABW	Fertility rate, total (births per woman)	SP.DYN.TFRT.IN	4.820	4.655	4.471	4.271	4.059	3.842	...	1.763	1.764	1.769	1.776	1.783	1.791	1.796	1.800	1.801	1.800
1	Afghanistan	AFG	Fertility rate, total (births per woman)	SP.DYN.TFRT.IN	7.450	7.450	7.450	7.450	7.450	7.450	...	6.460	6.254	6.038	5.816	5.595	5.380	5.174	4.981	4.802	4.635
2	Angola	AGO	Fertility rate, total (births per woman)	SP.DYN.TFRT.IN	7.478	7.524	7.563	7.592	7.611	7.619	...	6.368	6.307	6.238	6.162	6.082	6.000	5.920	5.841	5.766	5.694
3	Albania	ALB	Fertility rate, total (births per woman)	SP.DYN.TFRT.IN	6.489	6.401	6.282	6.133	5.960	5.773	...	1.668	1.650	1.646	1.653	1.668	1.685	1.700	1.710	1.714	1.713
4	Andorra	AND	Fertility rate, total (births per woman)	SP.DYN.TFRT.IN	NaN	NaN	NaN	NaN	NaN	NaN	...	1.180	1.250	1.190	1.270	NaN	NaN	NaN	NaN	NaN	NaN

Life Expectancy Dataset

	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	...	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0	Aruba	ABW	Life expectancy at birth, total (years)	SP.DYN.LE00.IN	65.662	66.074	66.444	66.787	67.113	67.435	...	74.576	74.725	74.872	75.016	75.158	75.299	75.440	75.582	75.725	75.867
1	Afghanistan	AFG	Life expectancy at birth, total (years)	SP.DYN.LE00.IN	32.292	32.742	33.185	33.624	34.060	34.495	...	59.694	60.243	60.754	61.226	61.666	62.086	62.494	62.895	63.288	63.673
2	Angola	AGO	Life expectancy at birth, total (years)	SP.DYN.LE00.IN	33.251	33.573	33.914	34.272	34.645	35.031	...	55.096	56.189	57.231	58.192	59.042	59.770	60.373	60.858	61.241	61.547
3	Albania	ALB	Life expectancy at birth, total (years)	SP.DYN.LE00.IN	62.279	63.298	64.187	64.911	65.461	65.848	...	75.656	75.943	76.281	76.652	77.031	77.389	77.702	77.963	78.174	78.345
4	Andorra	AND	Life expectancy at birth, total (years)	SP.DYN.LE00.IN	NaN	NaN	NaN	NaN	NaN	NaN	...	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
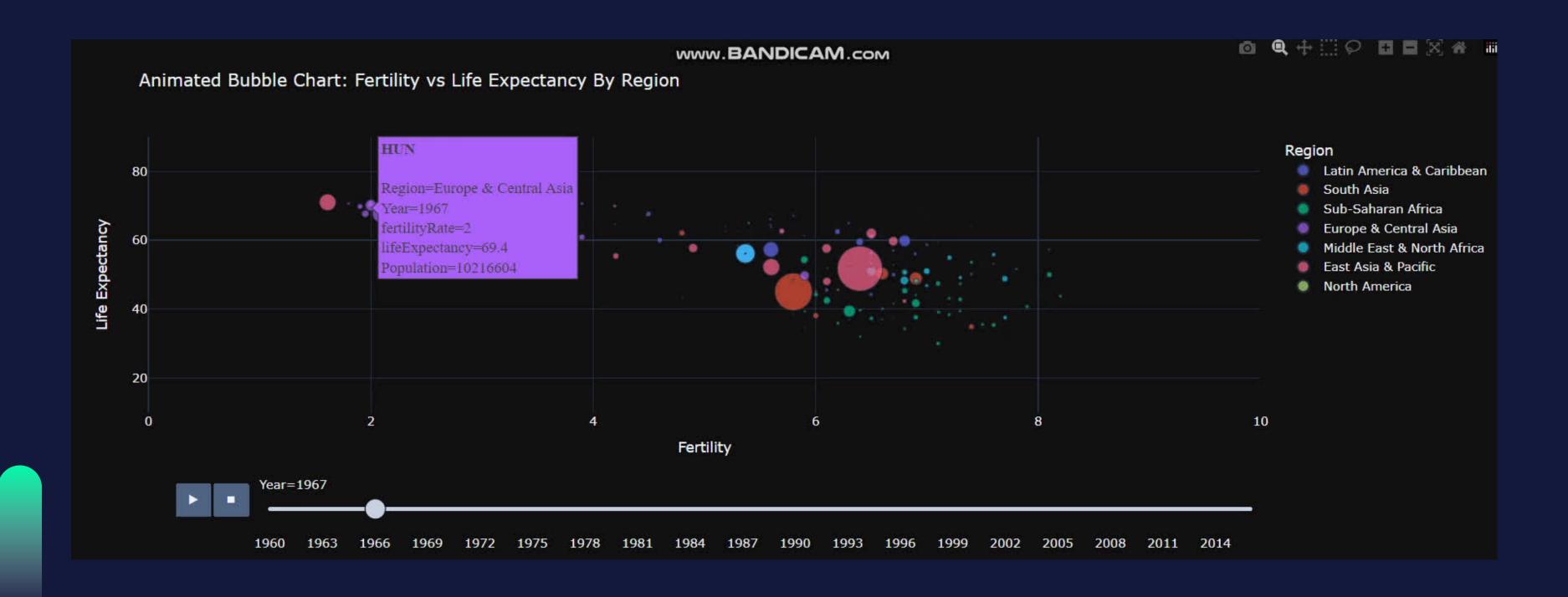
Datasets after cleaning and merging

	Country Code	Region	Year	Population	fertilityRate	lifeExpectancy
0	ABW	Latin America & Caribbean	1960	54211.0	4.8	65.7
1	ABW	Latin America & Caribbean	1961	55438.0	4.7	66.1
2	ABW	Latin America & Caribbean	1962	56225.0	4.5	66.4
3	ABW	Latin America & Caribbean	1963	56695.0	4.3	66.8
4	ABW	Latin America & Caribbean	1964	57032.0	4.1	67.1
...	...	...	...	...	...	...
14986	ZWE	Sub-Saharan Africa	2012	14710826.0	4.0	56.5
14987	ZWE	Sub-Saharan Africa	2013	15054506.0	4.0	58.1
14988	ZWE	Sub-Saharan Africa	2014	15411675.0	3.9	59.4
14989	ZWE	Sub-Saharan Africa	2015	15777451.0	3.8	60.4
14990	ZWE	Sub-Saharan Africa	2016	16150362.0	3.8	61.2

14991 rows × 6 columns

```
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Int64Index: 14991 entries, 0 to 14990
Data columns (total 6 columns):
 #   Column          Non-Null Count   Dtype
---  ------          --------------   -----
 0   Country Code    14991 non-null   object
 1   Region          12369 non-null   object
 2   Year            14991 non-null   int64
 3   Population      14991 non-null   float64
 4   fertilityRate   14991 non-null   float64
 5   lifeExpectancy  14991 non-null   float64
dtypes: float64(3), int64(1), object(2)
memory usage: 819.8+ KB
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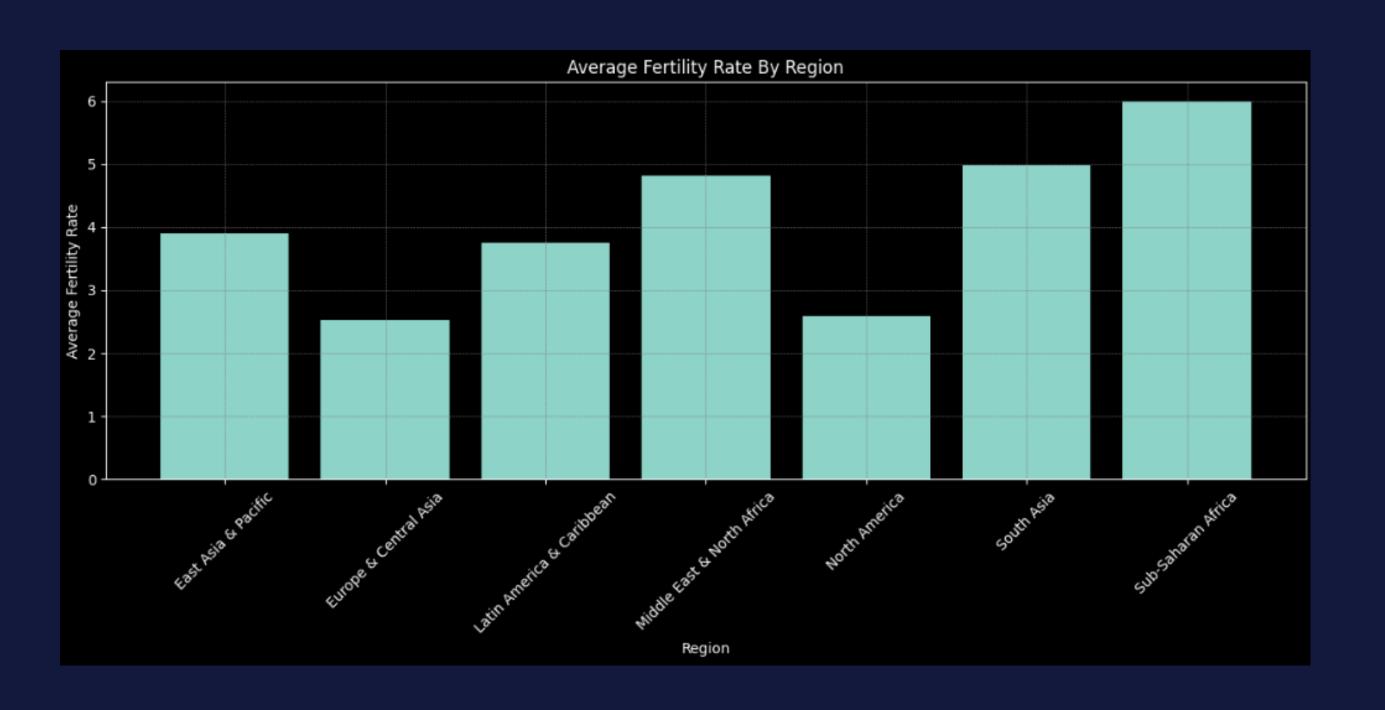
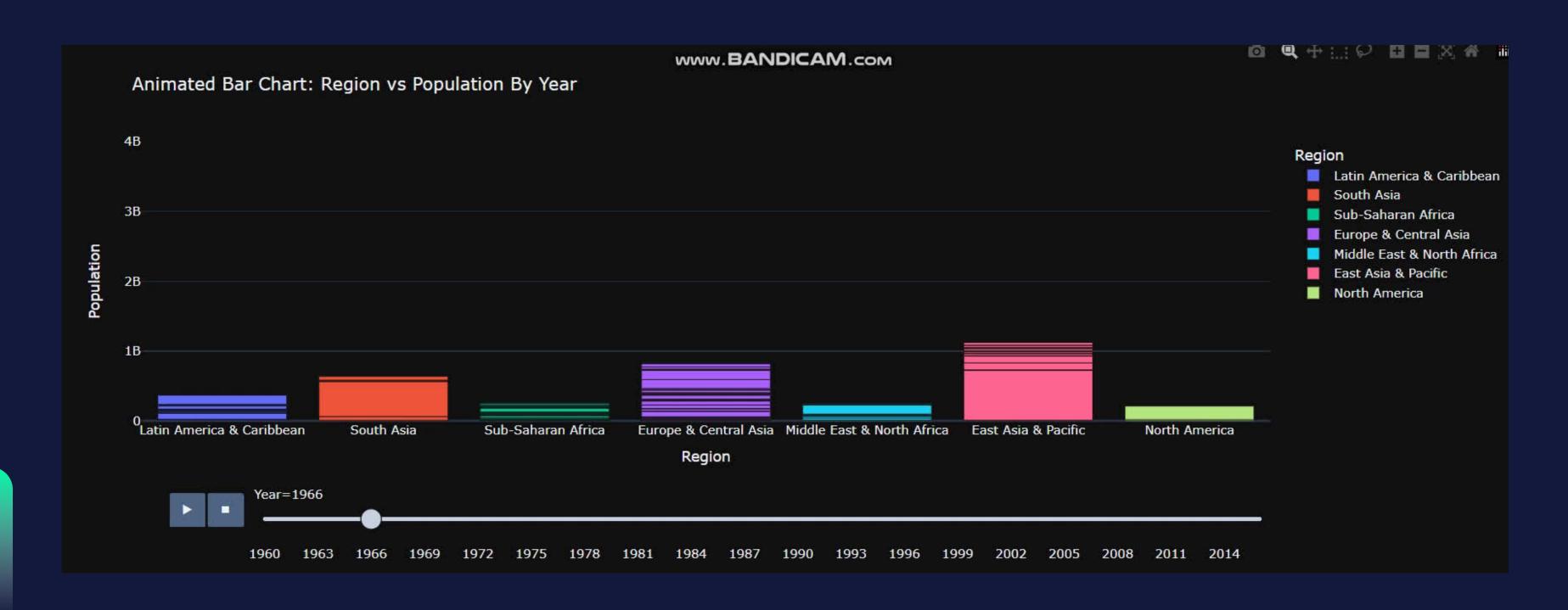# Visualizing Fertility vs Life Expectancy across different regions
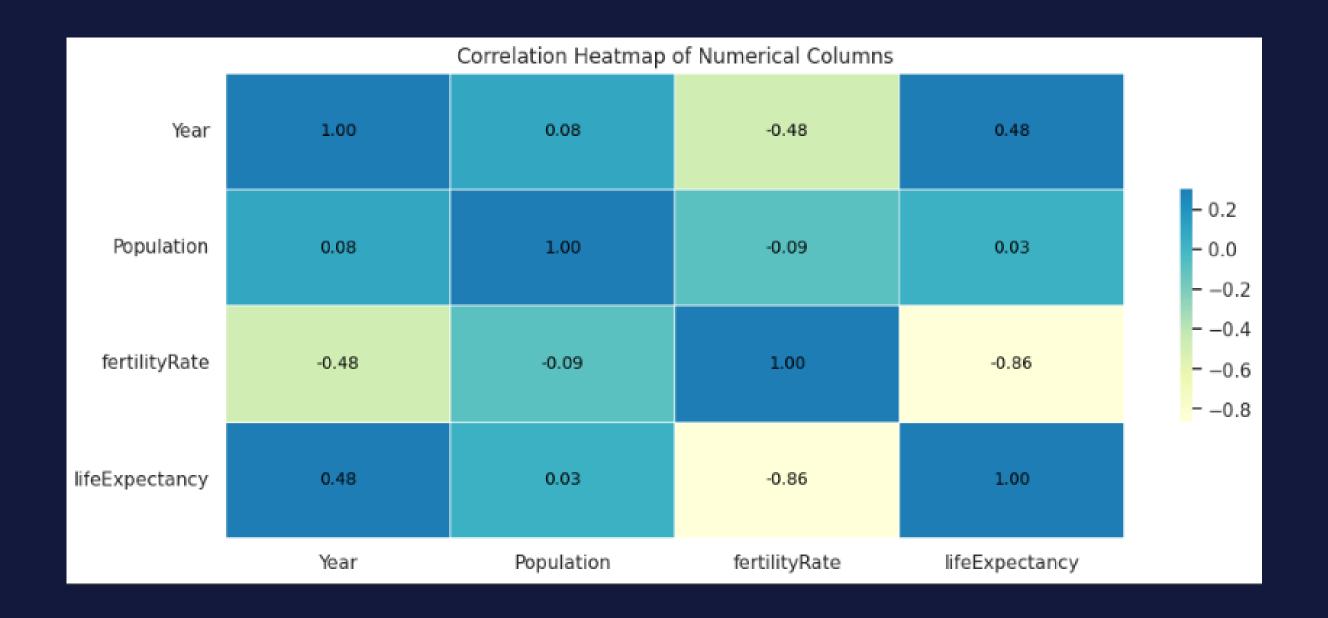
Average Fertility Rate by Region

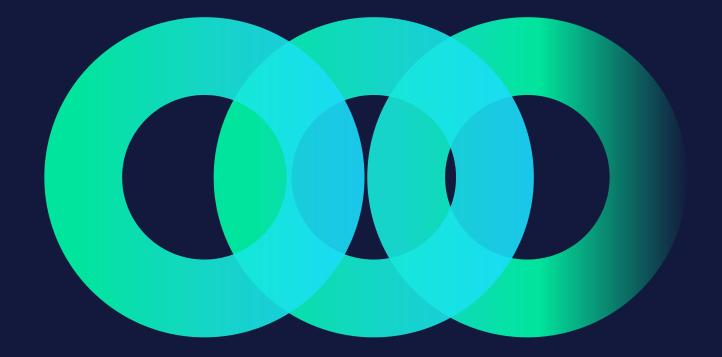# Visualizing population trends across different regions

Correlation Analysis

Correlation Heatmap of Numerical Columns

	Year	Population	fertilityRate	lifeExpectancy
Year	1.00	0.08	-0.48	0.48
Population	0.08	1.00	-0.09	0.03
fertilityRate	-0.48	-0.09	1.00	-0.86
lifeExpectancy	0.48	0.03	-0.86	1.00