

Data Collection and Preprocessing Phase

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| Date | 29 July 2025 |
| Project Title | Global Inflation Analysis |
| Maximum Marks | 10 Marks |

Data Exploration and Preprocessing Template

Identifies data sources, assesses quality issues like missing values and duplicates, and implements resolution plans to ensure accurate and reliable analysis.

| Section | Description |
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| Data Overview | <p>Two datasets were used:</p> <ol style="list-style-type: none"> Global Inflation Dataset containing inflation rates from 1980 to 2024 across various countries with each year as a separate column. Country-Region Mapping Dataset providing the region classification for each country. These datasets were combined to enable both temporal and geographical inflation analysis. |
| Data Cleaning | <ul style="list-style-type: none"> In order to better isolate and eliminate nulls, year columns were unpivoted into rows to handle missing values. Formatting errors were fixed, including the conversion of the date type from text. To enable clean joins, it was made sure that the country names were the same in both databases. After merging and cleaning, duplicate records were eliminated. |
| Data Transformation | <p>Filtering: Filtered out countries with incomplete data .</p> <p>Sorting: Sorted by Year and Country for trend analysis</p> <p>Created calculated columns:</p> <ul style="list-style-type: none"> Adjusted Inflation Rate: Adjusted using custom business logic (e.g., inflation correction or normalization) Countries Over 10: Flagged countries with inflation > 10% |

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| | <ul style="list-style-type: none"> • Inflation Category: Classified as Low (<5%), Medium (5–10%), or High (>10%) • Avg Rate: Computed as the average inflation rate per country for overall comparison |
| Data Type Conversion | <ul style="list-style-type: none"> • Converted Year to whole number • Ensured Inflation Rate, Adjusted Inflation Rate, and Avg Rate were set as decimal numbers • Set Country, Region, Status, and Inflation Category as text |
| Column Splitting and Merging | Merged country-region metadata with base inflation data using Country as the key field via Power Query's Merge Queries |
| Data Modeling | Established relationships in Power BI: -One-to-One between the Region Table and Inflation Table using the country index. |
| Save Processed Data | Cleaned and transformed data was saved as a new query/table in Power BI for all downstream use including report visuals, dashboards, and measures. |