Data Collection and Preprocessing Phase

Date	20 March 2025
Skillwallet ID	SWUID20250170824
Project Title	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	10 Marks

Data Exploration and Preprocessing Template

Section	Description
Data Overview	The dataset includes year-wise inflation data from 1980–2024 for various countries (global_inflation_data.csv) and a mapping of countries to regions (continents.csv). These datasets were combined and processed to enable continent-level, time-based inflation analysis.
Data Cleaning	Removed unnecessary columns, promoted headers, standardized column names (Country_name → CountryName), and added an Index column for unique identification. There were no missing values or duplicates, so no imputation was required.
Data Transformation	In Power Query, the year columns (1980–2024) were unpivoted to normalize the dataset into long format with fields: CountryName, Year, InflationRate. A calculated column AdjustedInflationRate = InflationRate * 0.01 was also created in Power BI.
Data Type Conversion	Converted Year to numeric data type, ensured InflationRate and AdjustedInflationRate are of decimal type. CountryName and Region fields were kept as text type to allow for relational mapping.
Column Splitting and Merging	Region dataset (continents.csv) was trimmed to retain only CountryName and Region. No actual column splitting or merging was required beyond schema alignment for joining.

Data Modeling	A one-to-many relationship was established between continents [CountryName] and GlobalInflationData [CountryName]. Calculated DAX measures were created for KPIs: Average InflationRate, Max InflationRate, and InflationRate Change.
Save Processed Data	The processed dataset was saved within Power BI's internal data model as part of the .pbix file (InflationAnalysis_SiddharthChauhan.pbix). Final datasets were not exported separately but used directly for dashboard and reporting visuals.