

Pandas Data Wrangling Project – Phase 1

Project Scenario

You are a data analyst at Keiko Corporation, a rapidly growing telecommunications startup that provides internet, phone, and streaming services to both residential and commercial customers.

Bruno, your manager, needs clearer insights into customer behaviors, service usage patterns, and potential operational efficiencies. He has tasked you with cleaning, organizing, and preparing customer and operational data to facilitate critical business analysis and reporting.

Bruno will progressively introduce more challenging requirements as he sees improvements and deeper potential from your initial efforts.

Task 1: Load and Preview the Dataset

First up, load the customer churn dataset into a DataFrame and preview its contents and structure.

Complete the following steps:

1. Import Pandas
 2. Load the customer churn dataset into a DataFrame
 - Use the provided CSV file: Keiko Customer Data.csv
 3. Display the first few rows of the DataFrame to get a general sense of its structure
 4. Check the dimensions (number of rows and columns) of the DataFrame
 5. View the data types and number of non-null values of all columns in the DataFrame
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Task 2: Modify the DataFrame Structure

Now it's time to *modify* the DataFrame's structure as follows:

1. Ensure a consistent naming scheme for all DataFrame columns by renaming them to follow a snake_case convention (lowercase with underscores between words)
 2. Convert any DataFrame columns containing date or numeric data to appropriate data types
 3. Sort the DataFrame by signup date and customer ID, in that order
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Task 3: Answer Bruno's Questions

Now that the customer churn dataset is ready to be analyzed, Bruno has some questions about the data:

1. How many values are missing from the total_charges field?
2. What percentage of customers in the dataset are senior citizens? (*HINT: the average of a 1/0 field is equivalent to the percentage of "1"s in that field.*)
3. How many customers churned, and how many did not?