# AMAZON SALES DATA ANALYSIS-

## importing required libraries-

```
import pandas as pd
import matplotlib.pyplot as plt

def load_data(file_path):
  """
  Loads the sales data from a CSV file.

  Args:
    file_path (str): The path to the CSV file.

  Returns:
    pandas.DataFrame: The loaded sales data.
  """
  try:
    df = pd.read_csv(file_path)
    return df
  except FileNotFoundError:
    print(f"Error: File not found at {file_path}")
    return None
  except Exception as e:
    print(f"Error loading data: {e}")
    return None

def preprocess_data(df):
  """
  Preprocesses the sales data.

  Args:
    df (pandas.DataFrame): The sales data.

  Returns:
    pandas.DataFrame: The preprocessed sales data.
  """
  try:
    df['Order Date'] = pd.to_datetime(df['Order Date'])
    return df
  except KeyError:
    print("Error: 'Order Date' column not found in the data.")
    return None
  except Exception as e:
    print(f"Error preprocessing data: {e}")
    return None
```

```
def analyze_sales_trends(df):
  """
  Analyzes the sales trends and prints the results.

  Args:
    df (pandas.DataFrame): The preprocessed sales data.
  """
  try:
    # Monthly sales trend
    monthly_sales = df.groupby(df['Order Date'].dt.month)['Units
Sold'].sum()

    # Yearly sales trend
    yearly_sales = df.groupby(df['Order Date'].dt.year)['Units
Sold'].sum()

    # Monthly-Yearly sales trend
    monthly_yearly_sales = df.groupby([df['Order Date'].dt.year,
df['Order Date'].dt.month])['Units Sold'].sum()

    # Plotting the trends
    plot_sales_trends(monthly_sales, yearly_sales,
monthly_yearly_sales)

  except KeyError:
    print("Error: 'Units Sold' or 'Order Date' column not found in the
data.")
  except Exception as e:
    print(f"Error analyzing sales trends: {e}")

def plot_sales_trends(monthly_sales, yearly_sales,
monthly_yearly_sales):
  """
  Plots the sales trends using bar charts.

  Args:
    monthly_sales (pandas.Series): Monthly sales data.
    yearly_sales (pandas.Series): Yearly sales data.
    monthly_yearly_sales (pandas.Series): Monthly-Yearly sales data.
  """
  try:
    plt.figure(figsize=(6, 4))

    monthly_sales.plot(kind='bar')
    plt.title('Monthly Sales')
    plt.xlabel('Month')
    plt.ylabel('Units Sold')
    plt.tight_layout()
    plt.savefig('Monthly Sales Trend.png')
```

```
    plt.figure(figsize=(6, 4))
    yearly_sales.plot(kind='bar')
    plt.title('Yearly Sales')
    plt.xlabel('Year')
    plt.ylabel('Units Sold')
    plt.tight_layout()
    plt.savefig('Yearly Sales Trend.png')

    plt.figure(figsize=(14, 5))
    monthly_yearly_sales.plot(kind='bar')
    plt.title('Monthly-Yearly Sales')
    plt.xlabel('Month-Year')
    plt.ylabel('Units Sold')
    plt.tight_layout()
    plt.savefig('Monthly-Yearly Sales Trend.png')

    plt.show()

  except Exception as e:
    print(f"Error plotting sales trends: {e}")

if __name__ == "__main__":
  file_path = 'C:\\Users\\User\\Desktop\\Internship\\PROJECT 1\\Amazon
Sales data.csv'
  df = load_data(file_path)
  if df is not None:
    df = preprocess_data(df)
    if df is not None:
      analyze_sales_trends(df)
```

```
Error: File not found at C:\Users\User\Desktop\Internship\PROJECT 1\
Amazon Sales data.csv
```