Data Processing with Scala

You have been given a dataset containing information about sales transactions for a company. Your task is to write a Scala program that processes the dataset and performs the following tasks:

1. Read the dataset from a CSV file sale_data.csv and load it into a DataFrame or Dataset.

2. Perform data cleaning by removing any null or missing values from the dataset.

3. Calculate the total sales revenue for each product category.

4. Find the top 5 products with the highest sales revenue.

5. Calculate the average sales revenue per month and store the results in a separate DataFrame or Dataset.

6. Save the cleaned dataset, the top 5 products, and the average sales revenue per month as separate CSV files.

Your Scala program should be well-structured, modular, and efficient. You can make use of any Scala libraries or frameworks for data processing, such as Apache Spark or ScalaCSV.

To complete this homework assignment, you can follow these steps:

1. Set up a Scala development environment with the necessary libraries (e.g., Apache Spark).

2. Create a new Scala project and set up the necessary dependencies.

3. Implement the required data processing tasks using Scala and the chosen libraries.

4. Test your program with the provided dataset and verify that it produces the expected results.

5. Write a report summarizing your approach, explaining the design choices you made, and providing insights from the data analysis.

6. Submit your Scala code and the report.

Remember to document your code and include comments where necessary to make it clear and understandable.