# Case Study Task: Part 8 – Superstore Sales Report

The objective of this exercise is to write a report on the case study work that we have just completed. To make this task slightly easier, the copy of your brief has been added below for you to reference:

*You're an analyst involved in the design and implementation of a data warehouse for a large retailer selling a range of office supplies, furniture and technology to both home and business customers in the US. The retailer wants to get a better understanding of how their business is performing. In order to do this, they want to consolidate the data in their operational data stores so they can report on the most popular product categories, the most profitable types of customer and the best performing regions. A data warehouse project is a large undertaking, and the retailer knows this. To demonstrate ROI (return on investment) as early as possible, they've asked you for an initial pilot using a sample dataset from the sales source system.*

*The brief is as follows:*

*1. Review the data and design a schema suitable for OLAP.*

*2. Create the database and table structures to match your design.*

*3. Populate the database tables.*

*4. Create aggregated data structures to enhance query performance.*

*5. Generate some visualisations to demonstrate how the data design meets the retailer’s reporting needs.*

*Report requirements*

* *Total sales revenue by region by quarter*
* *Total units sold by product category by month*
* *Total profit by customer segment by month*

Your report needs to include the following sections:

## Introduction

* Introduce the project
* Why is the project required?
* What needs to be achieved?

## Problem Statement

* What is the current problem?
* Who are the stakeholders involved?
* What are the criteria for success?

## Objectives

* What are the questions that need to be answered? (HINT: Use the report requirements from the brief)

## Method

You need to write a few pages to describe the methods used. Create the following sub sections as required:

* Database Design (Star Schema, ERD, why structure your data in a star schema?)
* Data Anomalies (Any data cleansing required? Any duplicates?)
* Database Creation (How did you populate the database?)
* Other Data Structures (eg Summary Tables or OLAP Cube - How did you go about designing these other data structures? Why use them?)

## Results and Analysis

* Show your data visuals for the following:
  + Total sales revenue by region by quarter
  + Total units sold by product category by month
  + Total profit by customer segment by month

## Conclusion and Recommendations

* Have the project aims been achieved?
* How did it go?
* What are the next steps with the stakeholders?
* Any recommendations for further development?

## KSBs Achieved

Look at the Data Analyst standard: <https://www.instituteforapprenticeships.org/apprenticeship-standards/data-analyst-v1-1>. Now select the Knowledge, Skills and Behaviours that you think you have achieved in this project. Write a small comment against each one to explain why you think you have achieved it.