**PROJECT REPORT 1: Amazon Product Review Analysis**

1. **Introduction**  
   This project is centered on leveraging data analytics to uncover patterns and insights from Amazon product reviews. It was conducted as part of a broader initiative at Retail Tech Insights to support e-commerce sellers with meaningful product and customer engagement insights.
2. **Project Topic**  
   Amazon Product Review Analysis
3. **Project Overview**  
   The objective of this project was to analyze product details and customer engagement data to:

* Identify categories with the highest discounts
* Determine product popularity by reviews
* Compare actual vs. discounted prices
* Understand rating distributions
* Evaluate product revenue potential  
  This analysis aims to guide product improvement, marketing strategies, and inventory prioritization.

1. **Data Source**  
   The dataset was sourced from Amazon product pages, containing 1,465 records and 16 fields. It included:

* Product name, category, price, discount, rating
* Aggregated review content (titles, reviews)

1. **Data Cleaning**  
   The data underwent cleaning in Excel:

* Removed duplicates
* Handled missing numeric values (e.g., blank ratings or discount fields)
* Parsed text fields with embedded numerical values (e.g., rating counts)
* Created helper columns: discount %, price buckets, revenue calculations

1. **EDA (Exploratory Data Analysis)**  
   EDA was performed using Pivot Tables, helper formulas, and charts:

* Count of products per category
* Average discount by category
* Rating distributions (3.0, 4.0, 5.0)
* Revenue potential by multiplying rating count by price
* Top-rated and most-reviewed products
* Distribution of prices into defined ranges
* Correlation between discount and rating (using trendline)

1. **Recommendation**

* Focus promotions on categories with high average discounts and high review counts
* Optimize pricing strategies where large discounts don’t improve ratings
* Prioritize inventory for top-rated products in high-review categories
* Segment marketing efforts based on pricing buckets and product rating tiers

**Conclusion**  
The project delivered actionable insights by cleaning and analyzing product review data. The results support more targeted marketing, better pricing strategy, and informed product prioritization decisions.