# Amrita Vishwa Vidyapeetham

## Department of Artificial Intelligence

## 21AIE304 Big Data and Database Management Systems
## Practice Problems -5

Date: 23-11-2023

---

**Instructions**

a. Please compile the practice problems into a Word document for PP1 and save it in your OneDrive folder.
b. Create a section titled 'Practice Problem 5.' For each question, provide the associated code in text format immediately below the question.
c. Kindly refrain from including any screenshots.

---

1. Use sales_data.csv for the following questions, compute
   - Average Quantity Sold per Customer
   - Total Sales per Product Category
   - Most Sold Product
   - Sales Trend Over Time  (weekly and Monthly basis)
   - Average Price per Product Category
   - Monthly Sales Breakdown for a Specific Product Category
   - Top N Customers by Total Spending
   - Average Price Over Time for a Specific Product
   - Sales Contribution Percentage by Product Category
   - Repeated customers
   - Calculate Average Time Between Purchases for Each Customer
   - Identify Peak Shopping Hours Across All Days:
   - to select products whose names contain either "Phone" or "Laptop" and have a price between $700 and $1500. Additionally, you want to calculate a 15% discount for products with a quantity greater than 1
   - to calculate a discount for the selected products based on certain conditions. Let's say you want to apply a 10% discount for products with a price greater than $1000