

Class: 3DM

Course: DSC261-3 – Data Visualization

Exercise No: Lab Assignment – 1

Date: 16/06/2025

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## **Engineering Student Journey**

### **About Dataset—**

This dataset provides detailed insights into engineering students' academic performance, skills, internships, and placement outcomes. It covers students from branches like CSE, ECE, MECH, and more, with semester-wise GPA, club involvement, and technical skills.

### **Key Features**

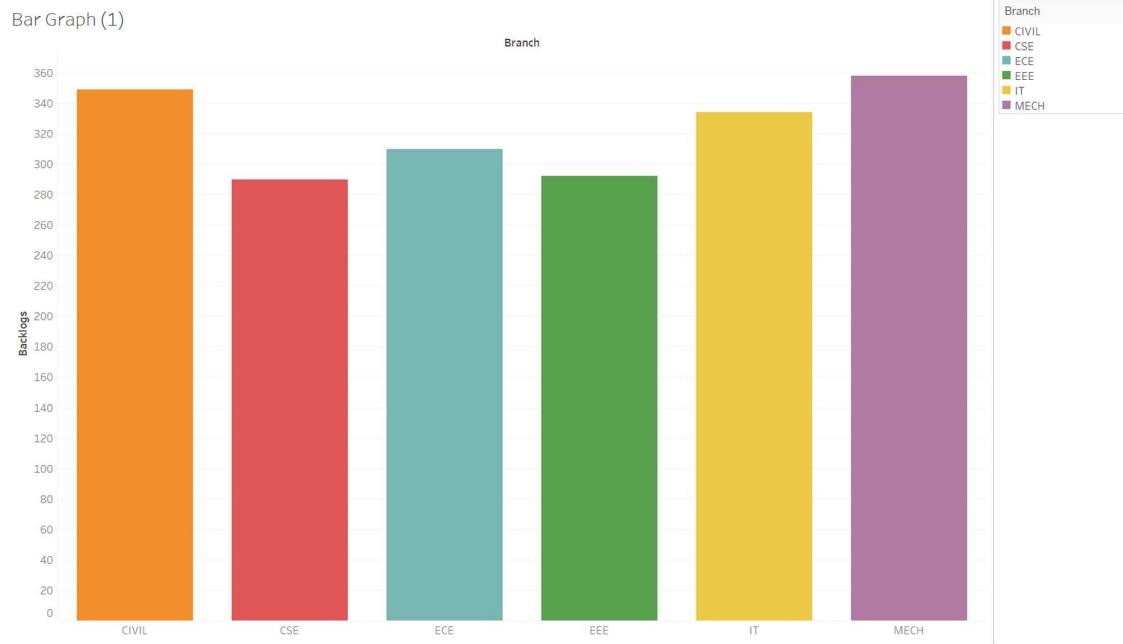
- **Semester-wise GPA:** Tracks performance across 8 semesters.
- **Skills:** Includes programming languages (Python, C++, Java) and domains (Machine Learning, Data Science).
- **Placement Data:** Details on placement status, domain, and CTC (in LPA).
- **Demographics:** Age, gender, and branch information.

### **Data Dictionary**

- **Student ID:** Unique identifier (UUID).
- **Name:** Student name (anonymized recommended).
- **Average GPA:** Mean GPA across semesters (0-10 scale).
- **Backlogs:** Number of failed courses.
- **Attendance (%):** Percentage of classes attended.
- **CTC (LPA):** Cost to Company for placed students (0 if not placed).

## 1. BAR GRAPH

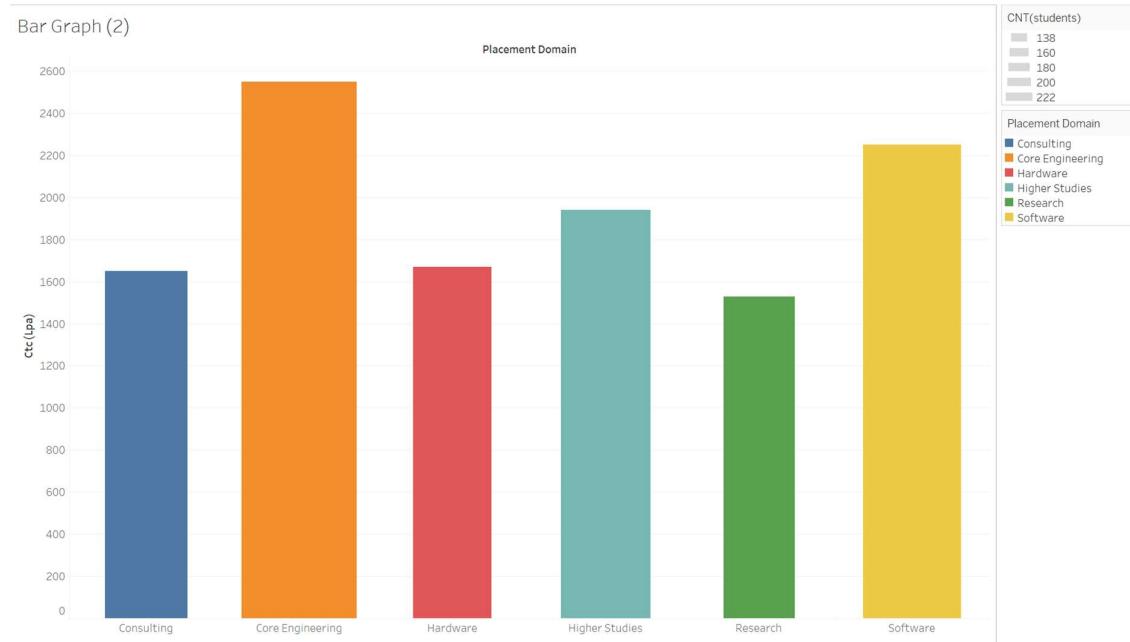
a.



This bar graph shows the total number of backlogs in each engineering branch.

MECH and CIVIL have the highest backlogs, while CSE and EEE have the least.

b.

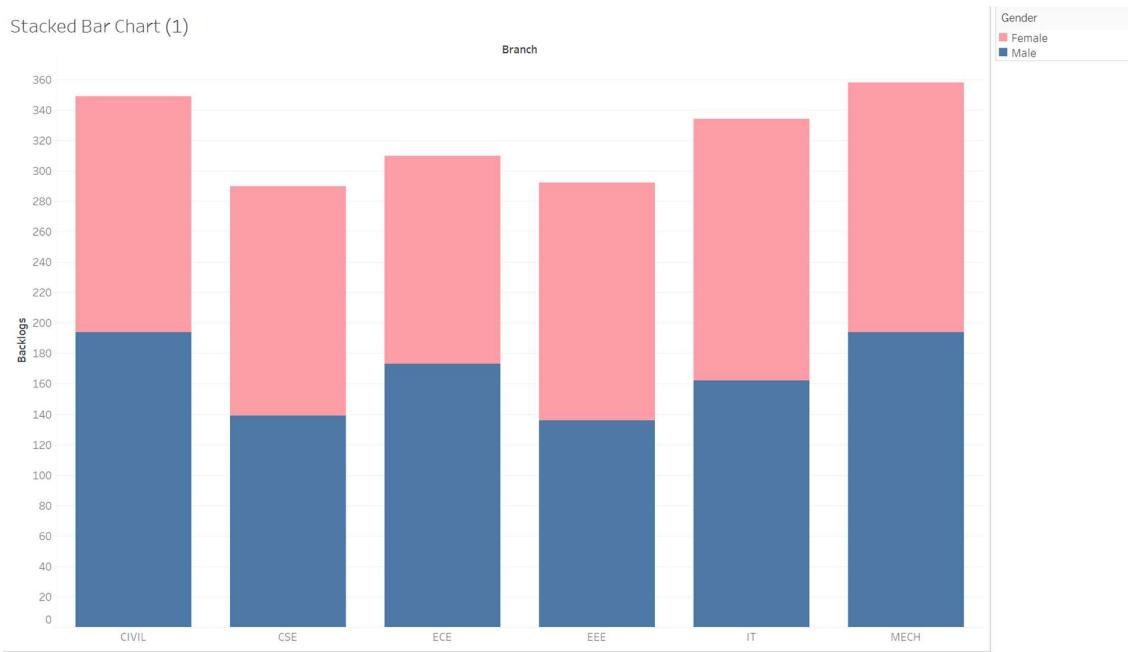


This bar graph shows the average CTC offered across different placement domains.

Core Engineering and Software offer the highest packages, while Research has the lowest.

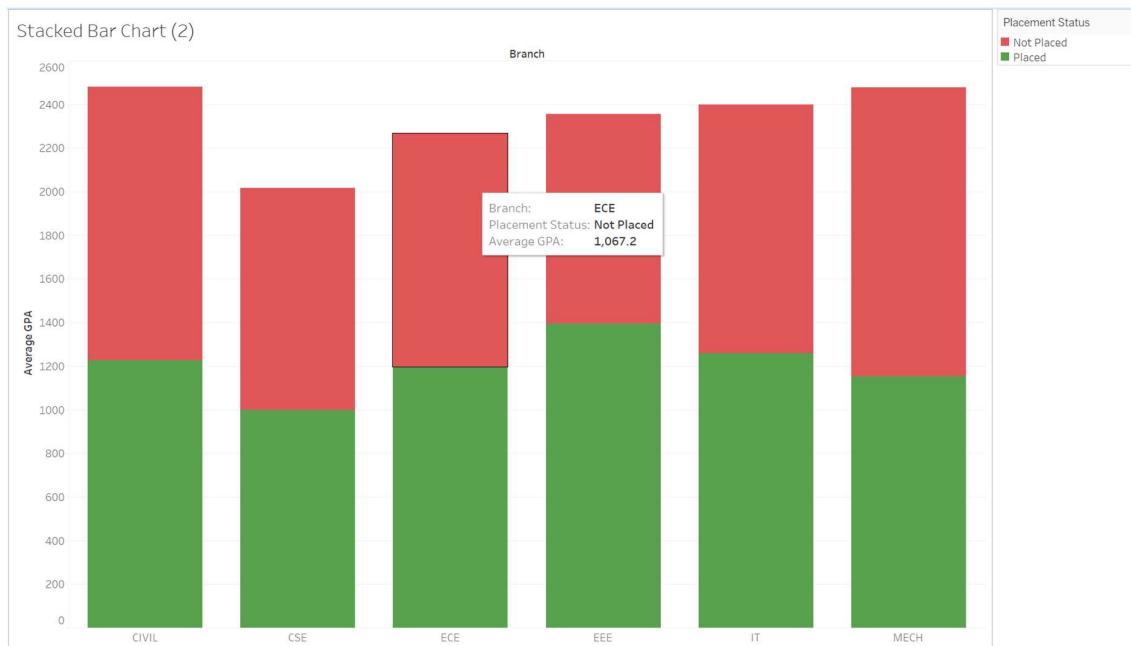
## 2. Stacked Bar Chart

a.



This stacked bar chart shows the number of backlogs by gender in each branch.  
Both male and female students have backlogs, with numbers fairly balanced across branches.

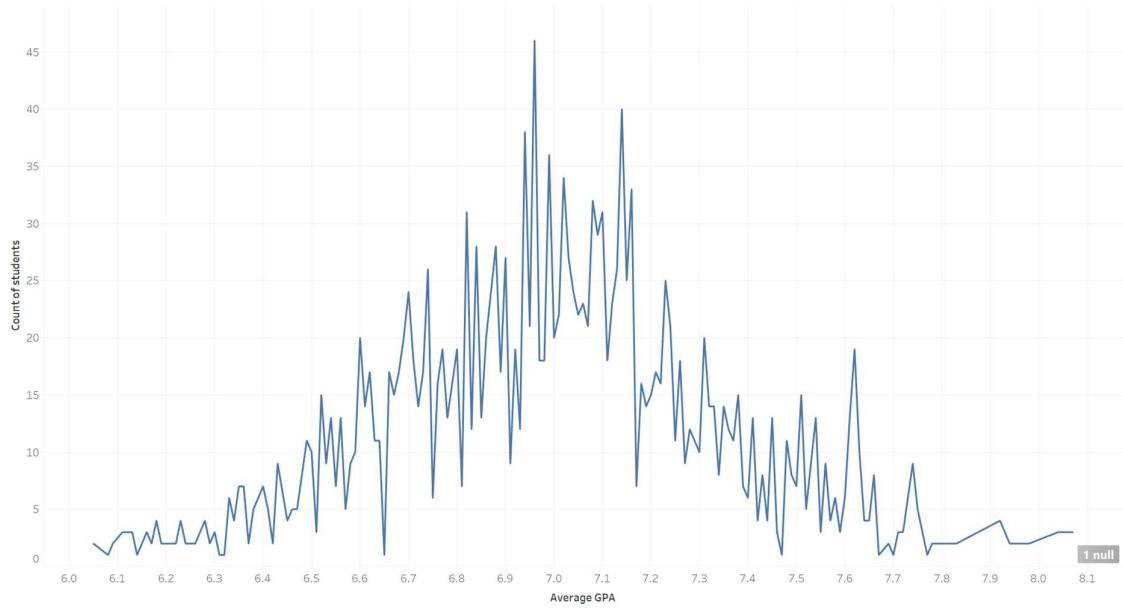
b.



This chart shows the average GPA of students from different branches like CSE, ECE, and MECH. It also splits them into placed (green) and not placed (red) groups.

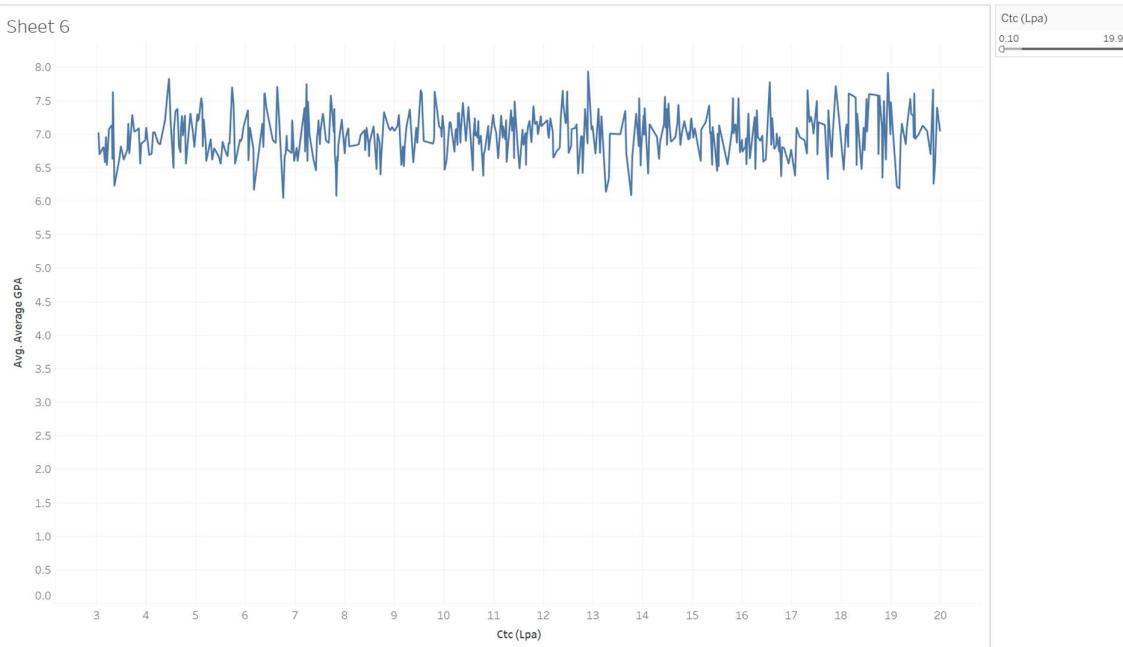
### 3. Line Chart

a.



This chart shows how many students have a certain average GPA, from 6.0 to 8.1. Most students have a GPA around 6.8 to 7.2, with fewer at the lower and higher ends.

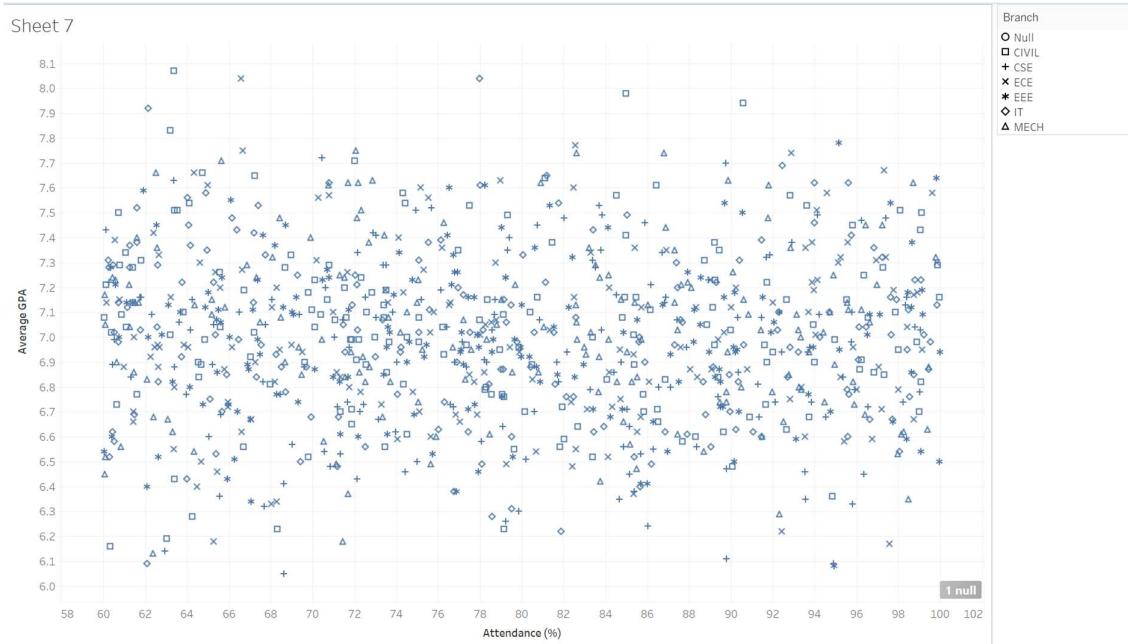
b.



This chart shows how average GPA changes with CTC, from 0 to 20 LPA. Most students with higher CTC (around 10-15 LPA) have an average GPA between 6.0 and 7.5.

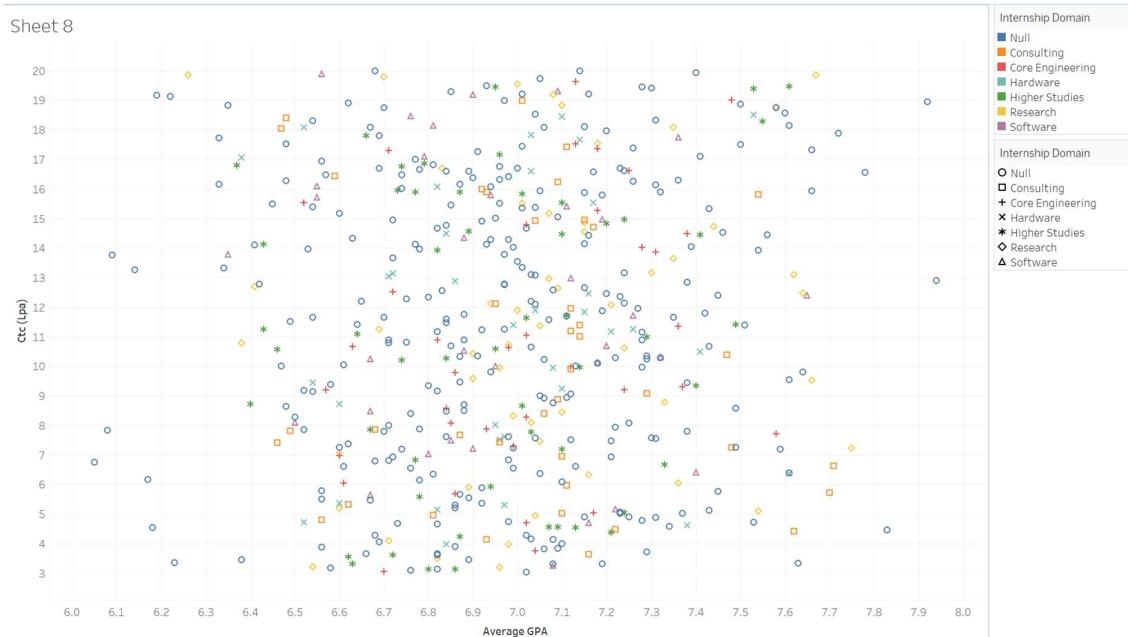
## 4. Scatter Plot

a.



This chart plots average GPA against attendance percentage for students from different branches like CSE and MECH. Most students have an attendance between 70% and 90% with GPAs around 6.5 to 7.5.

b.



This chart shows how average GPA relates to CTC for students with different internship domains like Software and Core Engineering. Most students with GPAs between 6.5 and 7.5 have CTCs ranging from 5 to 15 LPA.

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