

Machine Learning Programming Lab 2

Question 1: Line Plot — Salary Trend

The x-axis represents the index number of the data, and the y-axis represents the salary. When the line goes up, that person's salary is higher, and when it goes down, that salary is lower. The graph shows that salary is not the same for everyone and that it changes from person to person.

Question 2: Bar Chart — Average Salary by City

Each bar represents the average salary of one city, and the cities are Toronto, Ottawa, and London. The height of each bar shows how high the average salary is in that city. We compare the cities by looking at which bar is higher or lower. In this chart, Ottawa and London have the highest average salary, and Toronto has the lowest.

Question 3: Scatter Plot — Age vs Salary

Each point represents one person's age and their salary. There is a positive relationship in the graph because when age increases, salary also increases. As we can see, younger people have lower salaries and older people have higher salaries. One conclusion is that age has an effect on salary.

Question 4: Histogram & Boxplot — Data Distribution

In the age histogram, I can see that most people are in the middle age range, around 24 to 45 years old, and very few are very young or very old. This shows that most of the data is concentrated in the middle. In the boxplot, I can see that salaries range from 25,000 to 70,000. It also shows that some people earn much more than others. This tells us that salary is not the same for everyone and that there is a big difference between the lowest and highest salaries.

Question 5: Sales Visualization Analysis

a) Which month had the highest units sold?

Answer: June

b) What relationship do you see between units sold and profit?

The graphs show that when units sold increase, profit also increases. For example, June has the highest units sold and also the highest profit. This means there is a positive relationship between units sold and profit.

c) Which graph helped you understand the sales data best and why?

The line graph helped the most because it clearly shows the trend over the months and makes it easy to see that both units sold and profit are increasing over time.