Write a program to create a 2D array using NumPy and perform basic arithmetic operatons.

a = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]

1

Write a Python program to display a bar chart of the sales data of a company over 6 months.
Sample data:
Months: ["January", "February", "March", "April", "May", "June"]
Sales: [1500, 1600, 1200, 1300, 1800, 1700]

2

Write a Python program using matplotlib to create a horizontal bar graph representing the number of students participating in different sports. Use the following data:
Sports: ['Basketball', 'Soccer', 'Cricket', 'Tennis']
Participants: [15, 25, 10, 20]
i. Set the title to "Student Participation in Sports".
ii. Label the x-axis as "Number of Participants" and the y-axis as "Sports".
iii. Change the color of the bars to 'magenta'.
iv. Add a legend indicating "Number of Participants".

3

Write a Python program to draw a scater plot comparing the ages and salaries of employees in a company.
Sample data:

Ages: [25, 30, 35, 40, 45, 50, 55, 60]
Salaries: [40000, 50000, 60000, 70000, 80000, 90000, 100000, 110000]

i. Set the title of the scatter plot to "Salary Details".
ii.Change the color of the scatter points to 'orange'.
iii. Display a grid.

4

Write a Python program to plot two line graphs on the same axes to show the growth of two different plants over time. Use the following data:

Time (in weeks): [1, 2, 3, 4, 5]
Plant A Growth (in cm): [2, 4, 6, 8, 10]
Plant B Growth (in cm): [1, 3, 5, 7, 9]
i. Set the title as "Growth of Two Plants Over Time".
ii. Label the x-axis as "Time (Weeks)" and the y-axis as "Growth (cm)".
iii. Use different colors and markers for each line.
iv. Add a legend for both Plant A and Plant B.

5