

## Assignment 2

**Write a program in python to represent a complete graph by taking user inputs.**

```
In [17]: import matplotlib.pyplot as plt

# Take user input for number of vertices
num_vertices = int(input("Enter the number of vertices: "))

# Take user input for coordinates of vertices
vertices = [tuple(map(float, input(f"Enter coordinates for vertex {i+1} (separated by space): ").split())) for i in range(num_vertices)]

# Plot the complete graph
plt.figure()
for i, (x1, y1) in enumerate(vertices):
    for x2, y2 in vertices[i+1:]:
        plt.plot([x1, x2], [y1, y2], 'bo-')

plt.title('Complete Graph')
plt.xlabel('X')
plt.ylabel('Y')
plt.grid(True)
plt.show()
```

```
Enter the number of vertices: 5
Enter coordinates for vertex 1 (separated by space): 2 6
Enter coordinates for vertex 2 (separated by space): 3 1
Enter coordinates for vertex 3 (separated by space): 1 3
Enter coordinates for vertex 4 (separated by space): 1 5
Enter coordinates for vertex 5 (separated by space): 4 2
```

