```
def gauss_elimination(A, b):
    n = len(A)

    # Form augmented matrix
    for i in range(n):
        A[i].append(b[i])

    # Forward elimination
    for k in range(n):
        for i in range(k+1, n):
            if A[k][k] == 0:
                raise ZeroDivisionError("Division by zero!")
            factor = A[i][k] / A[k][k]
            for j in range(k, n+1):
                A[i][j] -= factor * A[k][j]

    # Back substitution
    x = [0 for _ in range(n)]
    for i in range(n-1, -1, -1):
        x[i] = A[i][n]
        for j in range(i+1, n):
            x[i] -= A[i][j] * x[j]
        x[i] /= A[i][i]

    return x
```

```
# Example circuit: 3 node voltages
A = [
    [10, -2, -1],
    [-2, 10, -2],
    [-1, -2, 10]
]

b = [6, 7, 8]

solution = gauss_elimination(A, b)

print("Node voltages (V):")
for i, val in enumerate(solution):
    print(f"V{i+1} = {val:.4f} V")
```