```
// Himanshu Pal , section : D , Roll no. : 1914016
#include <stdio.h>

int main()
{
    int  n;
    float A[15][15], temp, x[10];
    printf("\nEnter the no of Unknowns\n ");
    scanf("%d", &n);
    printf("\nEnter the augmented matrix \n");
    for (int i = 1; i <= n; i++)
    {
        for (int j = 1; j <= (n + 1); j++)
        {
            scanf("%f", &A[i][j]);
        }
    }

    for (int j = 1; j <= n; j++)
    {
        for (int i = 1; i <= n; i++)
        {
            if (i != j)
            {
                temp = A[i][j] / A[j][j];
                for (int k = 1; k <= n + 1; k++)
                {
                    A[i][k] = A[i][k] - temp * A[j][k];
                }
                printf("Intermediate forms: \n");
```

```
            for (int x = 1; x <= n; x++)
            {
                for (int y = 1; y <= (n + 1); y++)
                {
                    printf("%f ", A[x][y]);
                }
                printf("\n");
            }
            printf("\n\n");
        }
    }
    printf("\nValues of unknown are:\n");
    for (int i = 1; i <= n; i++)
    {
        x[i] = A[i][n + 1] / A[i][i];
        printf("\nValue of variable %d = %f\n", i-1, x[i]);
    }
    return 0;
}

// output

Enter the no of Unknowns
 3

Enter the augmented matrix
1 1 1 9
2 -3 4 13
3 4 5 40
```

Intermediate forms:

1.000000 1.000000 1.000000 9.000000

0.000000 -5.000000 2.000000 -5.000000

3.000000 4.000000 5.000000 40.000000

Intermediate forms:

1.000000 1.000000 1.000000 9.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 1.000000 2.000000 13.000000

Intermediate forms:

1.000000 -0.000000 1.400000 8.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 1.000000 2.000000 13.000000

Intermediate forms:

1.000000 -0.000000 1.400000 8.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 -0.000000 2.400000 12.000000

Intermediate forms:

1.000000 -0.000000 -0.000000 1.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 -0.000000 2.400000 12.000000

Intermediate forms:

1.000000 -0.000000 -0.000000 1.000000

0.000000 -5.000000 -0.000000 -15.000000

0.000000 -0.000000 2.400000 12.000000

Intermediate forms:

1.000000 -0.000000 1.400000 8.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 1.000000 2.000000 13.000000

Intermediate forms:

1.000000 -0.000000 1.400000 8.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 -0.000000 2.400000 12.000000

Intermediate forms:

1.000000 -0.000000 -0.000000 1.000000

0.000000 -5.000000 2.000000 -5.000000

0.000000 -0.000000 2.400000 12.000000

Intermediate forms:

1.000000 -0.000000 -0.000000 1.000000

0.000000 -5.000000 -0.000000 -15.000000

0.000000 -0.000000 2.400000 12.000000

Values of unknown are:

Value of variable 0 = 1.000000

Value of variable 1 = 3.000000

Value of variable 2 = 5.000000