```
<terminated> (exit value: 0) CS3010_Ta_Caroline_Project_1.exe [C/C++ Application] C:\Users\alexi\eclipse-workspace\CS3010_Ta_Caroline_Project_1\Debug\CS3010_Ta_Caroline_Project_1.exe (9/29/20, 2:56 PM)

********************************************************************************
* Name:       Caroline Ta
* Date:       09.25.2020
* Class:      CS3010.01 - Numerical Methods
* Assignment: Programming Project 1 - Gaussian Elimination Partial Pivoting
********************************************************************************

Would you like to input the matrix through command line or text file?
[0] - Exit the Program
[1] - Command Line
[2] - Text File

Enter choice: 1

Enter the number of equations: 4

Enter the coefficients:
3 -13 9 3 -19
-6 4 1 -18 -34
6 -2 2 4 16
12 -8 6 10 26

Scale vectors: s = [13, 18, 6, 12]

Ratio: r = {0.23, 0.33, 1.00, 1.00}
The largest ratio found is 1.00 so we choose R3 and swap with R1

The matrix after R1 <-> R3
6.00    -2.00   2.00    4.00    16.00
-6.00   4.00    1.00    -18.00  -34.00
3.00    -13.00  9.00    3.00    -19.00
12.00   -8.00   6.00    10.00   26.00

The matrix after scaled partial pivoting:
6.00    -2.00   2.00    4.00    16.00
0.00    2.00    3.00    -14.00  -18.00
0.00    -12.00  8.00    1.00    -27.00
0.00    -4.00   2.00    2.00    -6.00

Scale vectors: s = [6, 18, 13, 12]

Ratio: r = {0.11, 0.92, 0.33}
The largest ratio found is 0.92 so we choose R3 and swap with R2
```

```
The matrix after R2 <-> R3
6.00    -2.00   2.00    4.00    16.00
0.00    -12.00  8.00    1.00    -27.00
0.00    2.00    3.00    -14.00  -18.00
0.00    -4.00   2.00    2.00    -6.00

The matrix after scaled partial pivoting:
6.00    -2.00   2.00    4.00    16.00
0.00    -12.00  8.00    1.00    -27.00
0.00    0.00    4.33    -13.83  -22.50
0.00    0.00    -0.67   1.67    3.00

Scale vectors: s = [6, 13, 18, 12]

Ratio: r = {0.24, 0.06}
The largest ratio found is 0.24 so we choose R3 and swap with R3 (matrix stays the same)

The matrix after R3 <-> R3
6.00    -2.00   2.00    4.00    16.00
0.00    -12.00  8.00    1.00    -27.00
0.00    0.00    4.33    -13.83  -22.50
0.00    0.00    -0.67   1.67    3.00

The matrix after scaled partial pivoting:
6.00    -2.00   2.00    4.00    16.00
0.00    -12.00  8.00    1.00    -27.00
0.00    0.00    4.33    -13.83  -22.50
0.00    0.00    0.00    -0.46   -0.46

The solution of the matrix:
x1 = 3.00
x2 = 1.00
x3 = -2.00
x4 = 1.00

Thank you for using the program!
```