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DEPARTMENT: CIVIL ENGINEERING

COURSE CODE: ENG 281

ASSIGNMENT 4

1. clear and clc

2. COMMANDS

```
commandwindow
```

```
clear
```

```
clc
```

```
A = [2,3,7,9,4;3,7,9,12,5;4,8,5,6,9;5,9,2,4,5;6,2,3,7,8]
```

```
colin = det(A)
```

```
coli = transpose(A)
```

```
col = inv(A)
```

```
co = rats(col)
```

OUTPUT

```
A =
```

| | | | | |
|---|---|---|----|---|
| 2 | 3 | 7 | 9 | 4 |
| 3 | 7 | 9 | 12 | 5 |
| 4 | 8 | 5 | 6 | 9 |
| 5 | 9 | 2 | 4 | 5 |
| 6 | 2 | 3 | 7 | 8 |

```
colin =
```

```
-765.0000
```

```
coli =
```

| | | | | |
|---|----|---|---|---|
| 2 | 3 | 4 | 5 | 6 |
| 3 | 7 | 8 | 9 | 2 |
| 7 | 9 | 5 | 2 | 3 |
| 9 | 12 | 6 | 4 | 7 |
| 4 | 5 | 9 | 5 | 8 |

col =

| | | | | |
|---------|---------|---------|---------|---------|
| 1.8915 | -1.4026 | -0.3124 | 0.7843 | -0.2078 |
| -0.4379 | 0.3268 | 0.0523 | -0.0392 | -0.0196 |
| 2.5725 | -1.8392 | -0.0863 | 0.7647 | -0.5176 |
| -1.8876 | 1.4654 | 0.0105 | -0.6078 | 0.3961 |
| -0.6222 | 0.3778 | 0.2444 | -0.3333 | 0.1333 |

co =

5×70 char array

| | | | | |
|---------|----------|----------|----------|--------|
| ' | 401/212 | -108/77 | -239/765 | 40/51 |
| -53/255 | ' | | | |
| ' | -67/153 | 50/153 | 8/153 | -2/51 |
| -1/51 | ' | | | |
| ' | 656/255 | -469/255 | -22/255 | 13/17 |
| -44/85 | ' | | | |
| ' | -319/169 | 148/101 | 3/287 | -31/51 |
| 101/255 | ' | | | |
| ' | -28/45 | 17/45 | 11/45 | -1/3 |
| 2/15 | ' | | | |

>>

3. COMMAND

```
commandwindow
clear
clc
A = [0,10,4,-2;-3,-17,1,2;1,1,1,0;8,-34,16,-10]
B = [-4;2;6;4]
S = inv(A)
X = S * B
```

OUTPUT

A =

| | | | |
|----|-----|----|-----|
| 0 | 10 | 4 | -2 |
| -3 | -17 | 1 | 2 |
| 1 | 1 | 1 | 0 |
| 8 | -34 | 16 | -10 |

B =

-4
2
6
4

S =

| | | | |
|---------|---------|--------|---------|
| -0.1786 | -0.1020 | 0.5714 | 0.0153 |
| 0.0357 | -0.0153 | 0.0357 | -0.0102 |
| 0.1429 | 0.1173 | 0.3929 | -0.0051 |
| -0.0357 | 0.1582 | 0.9643 | -0.0612 |

X =

4.0000
-0.0000
2.0000
6.0000

>>