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16/MHS01/029

Computer engineering

Eng 281 assignment IV

Question 1

```
commandwindow  
clear  
clc
```

Question 2

```
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];  
T = det(A);
```

T =

-765.0000

```
X = transpose(A);
```

X =

```
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
```

```
V = inv(A);
```

V =

```
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
```

```
Z = rats(V);
```

Z =

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 '
```

Question 3

```
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];
```

```
Q = inv(A);
```

Q =

```
-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 = Q * b;
```

X =

```
4.0000  
-0.0000  
2.0000  
6.0000
```