Q1----------------------------------------------------------------

<u>Input:</u>

A = [3 2 -1; -1 3 2; 1 -1 -1]

b = [10; 5; -1]

rank(A)

invA = inv(A)

transpose(A)

x = invA*b

<u>Output:</u>

A =

  3  2 -1

 -1  3  2

  1 -1 -1


b =

  10

   5

 -1


ans = 3

invA =

 -1  3  7

  1 -2 -5

 -2  5  11


ans =

  3 -1  1

  2  3 -1

```
  -1   2  -1
```

x =

```
  -2
   5
  -6
```

Q2 --------------------------------------

<u>Input:</u>

A = [1 2 2 4; 3 6 5 12; 1 3 -3 2; 6 -1 -1 1]

b = [11; 30; -5; -9]

x = inv(A)*b

<u>Output:</u>

A =

```
  1   2   2   4
  3   6   5  12
  1   3  -3   2
  6  -1  -1   1
```

b =

```
  11
  30
  -5
  -9
```

x =

```
  -1
   1
   3
```

Q3-----------------------------------------

Input:

A = [40 64 52; 60 82 76; 76 96 84]

B = [3.45 1.20; 3.65 1.30; 3.85 1.45]

product = A*B

<u>Output:</u>

A =

```
 40  64  52
 60  82  76
 76  96  84
```

B =

```
 3.4500  1.2000
 3.6500  1.3000
 3.8500  1.4500
```

product =

```
 571.80  206.60
 798.90  288.80
 936.00  337.80
```

*The Product shows the total sales and profit made each day for all types of milk. First row is Friday where $571.80 in sales was made in total of all three milks and $206.60 was made in profit. Then, second row Saturday and then Sunday.*

Q4--------------------------------

<u>Input:</u>

A = [2 0 4; 0 1 4; 1 1 -1]

b = [15 ; 17; 0]

x = inv(A)*b

Output:

A =

  2  0  4

  0  1  4

  1  1 -1

b =

  15

  17

   0

x =

  0.5000

  3.0000

  3.5000