JOSHUA ETUK

19/SCI01/095

A = 3 2 4 B = 4 3 2 C = 2 4 1

 6 4 2 6 4 1 3 6 2

 1 4 3 3 1 3 2 1 2

X = a

 b

 c

Linear transformation of a with x will be

 3 2 4

a 6 +b 4 +c 2

 1 4 3

T(X)= 3a 2b 4c

 6a + 4b + 2c

 a 4b 3c

T(X)= 3a + 2b + 4c

6a + 4b + 2c

a + 4b + 3c

B + C = 6 7 3

 9 10 3

 5 2 5

 (B + C)T = 6 9 5

 7 10 3

 3 2 5

6 10 3 \_ 9 7 3 + 5 7 10

 2 5 3 5 3 2

6(50-6) -9(35-9) +5(14-30)

6(44)-9(26)+5(-16)

264-234-80

=-50 therefore the rank is 3

A = 3 2 4

 6 2 4 = 3 2 4 - 2 6 4 + 4 6 2

 1 4 3 4 3 1 3 1 4

= 3(6-16)-2(18-4)+4(24-2)

-30- 28+88 =30 ….its a non singular matrix

B = 4 3 2

 6 4 1 = 4 4 1 - 3 6 1 + 2 6 4

 1 4 3 1 3 3 3 3 1

4(12-1)-3(18-3)+2(6-12)

44-45-12 = -13 …..the matrix is non singular

C = 2 4 1

 3 6 2 = 2 6 2 -4 3 2 + 1 3 6

 2 1 2 1 2 2 2 2 1

2(12-2)-4(6-4)+1(3-12)

20-8+9= 21 ……it is non singular