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MATRIC NUMBER: 18/sci01/059

DEPARTMENT: Computer science

NUMBER 1

1 2 8

4 7 6

9 5 3

(i) [x]=

[x]= 1(21-30)-2(12-54)+8(20-63)

[x]=-9+84-344=-269

[x]Not equal to 0, therefore, matrix X is a non-singular matrix

(ii) [Y]=

 0 5 0

-3 -7 -1

 2 1 9

[Y]= 0(171+1)-5(-27+2)+0(-3+14)

[Y]=0+125-0=125

[Y]Not equal to 0, therefore, matrix Y is a non-singular matrix

(iii) Rank of Y

 0 5 0

-3 -7 -1

 2 1 9

[Y]=

[Y]= 0(171+1)-5(-27+2)+0(-3+14)

[Y]=0+125-0=125 it is not equal to 0, hence the rank of y is 3

(iv) [X+Y] =

1 7 8

1 0 5

11 6 12

[X+Y]= 1(0+30)-7(12-55)+8(6-0)

[X+Y]=30+301+48=319

[X+Y]Not equal to 0, therefore, matrix X+Y is a non-singular matrix

(v) [5Y]=

 0 25 0

-15 -35 -5

 10 5 45

[5Y]= 0(-1571+25)-25(-675+50)+0(-75+350)

[5Y]=0+15625-0=15625

[5Y]Not equal to 0, therefore, matrix 5Y is a non-singular matrix

Number 2

T(m)=1

T(h)=1

T(i)=3

T(k)=5

T(o)=9

T(r)=9