```
 1 C:\Users\Acer\AppData\Local\Microsoft\WindowsApps\python3.9.exe C:\
   Users\Acer\PycharmProjects\login\src.py
 2 Please Enter number of rows : 4
 3 Please Enter number of columns : 3
 4 Please enter 3 elements for row 1 seperated by spaces : 1 2 3
 5 Please enter 3 elements for row 2 seperated by spaces : 3 4 5
 6 Please enter 3 elements for row 3 seperated by spaces : 2 7 2
 7 Please enter 3 elements for row 4 seperated by spaces : 8 5 6
 8 Your inputted matrix :
 9 1.0 2.0 3.0
10 3.0 4.0 5.0
11 2.0 7.0 2.0
12 8.0 5.0 6.0
13
14 Steps to convert above matrix to row echelon form:
15
16 Step1:
17 R2=R2-(3.0)*R1
18 R3=R3-(2.0)*R1
19 R4=R4-(8.0)*R1
20
21 1.0 2.0 3.0
22 0.0 -2.0 -4.0
23 0.0 3.0 -4.0
24 0.0 -11.0 -18.0
25
26 Step2:
27 R3=R3-(-1.5)*R2
28 R4=R4-(5.5)*R2
29
30 1.0 2.0 3.0
31 0.0 -2.0 -4.0
32 0.0 0.0 -10.0
33 0.0 0.0 4.0
34
35 Step3:
36 R4=R4-(-0.4)*R3
37
38 1.0 2.0 3.0
39 0.0 -2.0 -4.0
40 0.0 0.0 -10.0
```

```
41 0.0 0.0 0.0
42
43 Row Echelon form matrix :
44 1.0 2.0 3.0
45 0.0 -2.0 -4.0
46 0.0 0.0 -10.0
47 0.0 0.0 0.0
48
49 Checking if rank(REF(matrix))==order
50 If rank(REF)!=order or if any row in REF is zero, solution is trivial,
   hence det(matrix)=0
51 Singular Matrix
52
53 Process finished with exit code 0
54
```