```
/Users/bps/PycharmProjects/graph_theory/venv/bin/python /Users/bps/PycharmProjects/
graph_theory/main.py
Welcome to the Graph theory Calculator

Select your choice
1.A matrix Analysis
2.Bf matrix Analysis
3.Qf matrix Analysis
1



1.A matrix Analysis

Rows in A matrix: 3
Columns in A matrix: 9
No of passive elements in A matrix: 6

 Enter The Incident Matrix ( A matrix). First number passive elements,Current dependent,then
independent Current Source

1 1 1 0 0 0 -1 0 0
0 -1 0 1 1 0 0 1 0
0 0 -1 -1 0 1 0 0 -1

 Enter The Y matrix in (Enter Resistance Value)

2 0 0 0 0 0
0 2 0 0 0 0
0 0 5 0 0 0
```

```
0 0 0 0.5 0 0
0 0 0 0 4 0
0 0 0 0 0 1

 Enter The Independent Ig matrix

4 4 10
```

Ap	Y	Apt	Ig
[[1 1 1 0 0 0] [0 -1 0 1 1 0] [0 0 -1 -1 0 1]]	[[0.5 0. 0. 0. 0. 0.] [0. 0.5 0. 0. 0. 0.] [0. 0. 0.2 0. 0. 0.] [0. 0. 0. 2. 0. 0.] [0. 0. 0. 0. 0.25 0.] [0. 0. 0. 0. 0. 1.]]	[[1 0 0] [1 -1 0] [1 0 -1] [0 1 -1] [0 1 0] [0 0 1]]	[[4.] [4.] [10.]]

```
ap*y*ap_t
[[ 1.2  -0.5  -0.2 ]
 [-0.5   2.75 -2.  ]
 [-0.2  -2.    3.2 ]]

(ap*y*ap_t)^-1
[[1.07865169 0.4494382  0.34831461]
 [0.4494382  0.85393258 0.56179775]
 [0.34831461 0.56179775 0.68539326]]

vn
```

```
[[-6.]
 [-4.]
 [-6.]]

vb

[[-6.]
 [-2.]
 [ 0.]
 [ 2.]
 [-4.]
 [-6.]
 [ 6.]
 [-4.]
 [ 6.]]

Process finished with exit code 0
```