

Part-1

11x11

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 1"
MATRIX:
1 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 1 0 0
0 0 11 0 0 0 0 17 9 0 19 20
0 0 11 0 0 0 0 24 3 8 12 0
0 0 0 0 0 0 14 16 20 6 0
0 0 0 0 0 0 2 2 16 20 0
0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: -135960
MATRIX:
1 0 0 0 0 8 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: 75240
MATRIX:
1 0 0 0 0 3 0 19 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 11 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 10 21 16 18 20 0
0 0 0 0 0 0 22 1 21 13 0
0 0 0 0 0 0 19 12 17 24 0
0 0 0 0 0 0 10 19 3 11 0
0 0 0 0 0 0 0 0 0 0 1
The determinant of the 3.matrix is: -8996
Used Ram size is 2 MegaByte.
Process returned 0 (0x0) execution time : 0.248 s
Press any key to continue.
```

12x12

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 2"
MATRIX:
1 0 0 0 0 12 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: 200352
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: -24525
MATRIX:
1 0 0 0 20 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 8 12 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0
0 0 23 0 0 0 18 0 16 12 0 0
0 0 0 0 0 0 5 10 9 24 0 0
0 0 0 0 0 0 12 23 8 20 0 0
0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 1 0
The determinant of the 3.matrix is: -460962
Used Ram size is 6 MegaByte.
Process returned 0 (0x0) execution time : 0.530 s
Press any key to continue.
```

13x13

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 3"
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 9 22 5 3 0 0 0 0 0 0 0
0 0 21 12 11 0 0 0 0 0 0 0 0
0 0 8 19 17 19 0 0 0 0 0 0 0
0 22 16 6 23 22 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 23 1 0 0 0 0 0
0 0 0 0 0 6 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 16 0 1
0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: -14995
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 22 16 11 5 0 0 0 0 0 0 13
0 0 13 7 5 9 0 0 0 0 0 0 0
0 0 14 1 16 21 0 0 0 0 0 0 0
0 0 13 13 5 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 11 0
0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: -9626
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 10 3 19 0 0 0 0 0 0 0 0
0 0 11 13 1 14 0 1 0 0 0 0 0
0 0 5 23 2 10 0 0 0 0 0 0 0
0 0 7 10 10 1 0 0 0 0 0 0 0
0 0 0 0 7 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 3.matrix is: -422071
Used Ram size is 12 MegaByte.
Process returned 0 (0x0) execution time : 2.761 s
Press any key to continue.
```

14x14

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 4"
MATRIX:
1 0 0 24 0 0 0 0 0 0 0 0 0 0
24 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 24 22 18 18 0 0 0 0 9 0 0
0 0 0 12 5 8 16 0 0 0 0 0 0 0
0 0 0 2 0 2 14 0 0 0 0 0 0 0
0 0 0 14 24 0 24 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: -8092
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: 915002
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 20 13 18 17 0 0 0 0 0 23
0 0 0 10 2 5 13 0 0 0 0 0 0 0
0 0 0 2 2 24 24 0 0 0 0 0 0 0
0 0 0 0 18 24 23 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 18
0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0
The determinant of the 3.matrix is: -63062
Used Ram size is 16 MegaByte.
Process returned 0 (0x0) execution time : 5.921 s
Press any key to continue.
```

15x15

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 5"
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0 13
0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 24 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: -31283
MATRIX:
9 7 21 5 0 0 0 0 0 0 0 0 0 0 0
3 12 9 0 0 0 0 0 0 0 0 0 0 0 0
4 22 7 8 0 0 0 0 0 0 0 0 0 0 0
7 13 13 8 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 7 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 7 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: -2763
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 3 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 2 0 8 14 0 0 0 0 0
0 0 0 0 0 0 3 10 7 24 0 0 0 0 0
0 0 0 0 0 2 8 13 12 0 0 0 0 0
0 0 0 0 1 0 10 3 0 0 0 0 0 0 0
0 0 10 0 1 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
The determinant of the 3.matrix is: -192
Used Ram size is 26 MegaByte.
Process returned 0 (0x0) execution time : 12.958 s
Press any key to continue.
```

## Part-2

11x11

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 2"
MATRIX:
1 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 1 0 0
0 0 11 0 0 0 24 3 8 12 0
0 0 0 0 0 0 14 16 20 6 0
0 0 0 0 0 0 2 2 16 20 0
0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: -135960
MATRIX:
1 0 0 0 8 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0
0 0 0 19 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 6 0 0
0 0 0 0 0 1 0 0 0 23 0
0 0 0 0 0 0 6 1 18 23 0
0 0 0 0 0 0 4 23 9 4 0
0 0 0 0 0 14 6 15 16 1 0
0 0 0 0 0 0 6 8 19 14 0
0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: 75240
MATRIX:
1 0 0 0 0 3 0 19 0 0 0
0 1 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 1 11 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 10 21 16 18 20 0
0 0 0 0 0 22 1 21 13 0
0 0 0 0 0 19 12 17 24 0
0 0 0 0 0 10 19 3 11 0
0 0 0 0 0 0 0 0 0 0 1
The determinant of the 3.matrix is: -8996
Used Ram size is 2 MegaByte.
Process returned 0 (0x0)   execution time : 0.125 s
Press any key to continue.
```

12x12

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 2"
MATRIX:
1 0 0 0 0 12 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 7 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 12 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 5 24 6 2 0
0 0 0 0 0 0 0 0 0 16 24 0
0 0 0 0 0 0 0 16 5 7 16 0
0 0 0 0 0 0 0 7 12 7 12 0
0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 1.matrix is: 200352
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 16 10 1 0 0 0 0
0 0 0 0 0 24 19 6 23 0 0 0
0 0 0 14 0 3 24 8 19 0 0 0
0 0 0 0 9 14 2 20 0 0 0 0
0 9 0 0 0 0 0 0 0 1 0 0
0 0 0 2 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 1 0
The determinant of the 2.matrix is: -24525
MATRIX:
1 0 0 0 20 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 8 12 0 0
0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 21 6 5 13 0 0
0 0 23 0 0 18 0 16 12 0 0
0 0 0 0 0 5 10 9 24 0 0
0 0 0 0 0 12 23 8 20 0 0
0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 1
The determinant of the 3.matrix is: -460962
Used Ram size is 6 MegaByte.
Process returned 0 (0x0)   execution time : 0.200 s
Press any key to continue.
```

13x13

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 2"
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 9 22 5 3 0 0 0 0 0 0 0
0 0 21 12 11 0 0 0 0 0 0 0 0
0 0 8 19 17 19 0 0 0 0 0 0 0
0 22 16 6 23 22 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 23 1 0 0 0 0 0 0
0 0 0 0 0 6 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 15 0 1 0
0 0 0 0 0 0 0 0 0 0 0 1 0
The determinant of the 1.matrix is: -14995
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 5 0 0
0 0 22 16 11 5 0 0 0 0 0 0 13
0 0 13 7 5 9 0 0 0 0 0 0 0
0 0 14 1 16 21 0 0 0 0 0 0 0
0 0 13 13 13 5 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 11 0
0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 1
The determinant of the 2.matrix is: -9626
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 10 3 19 0 0 0 0 0 0 0 0
0 0 11 13 1 14 0 1 0 0 0 0 0
0 0 5 23 2 10 0 0 0 0 0 0 0
0 0 7 10 10 1 0 0 0 0 0 0 0
0 0 0 7 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 13 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 1 0
The determinant of the 3.matrix is: -422071
Used Ram size is 12 MegaByte.
Process returned 0 (0x0)   execution time : 0.344 s
Press any key to continue.
```

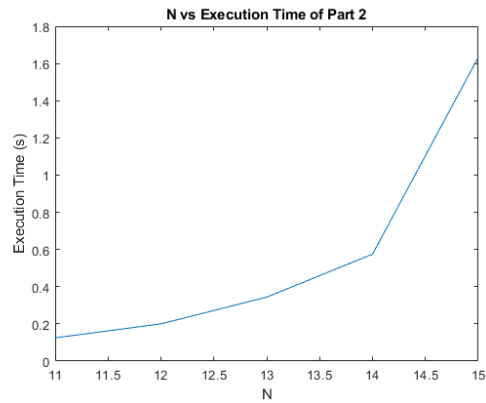
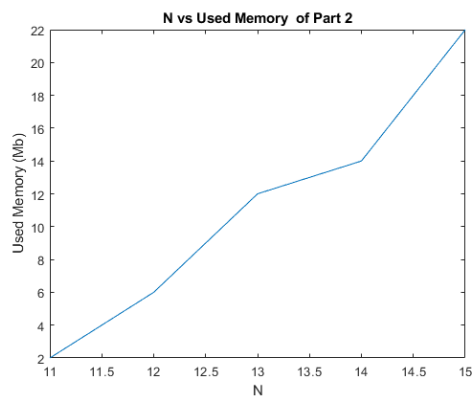
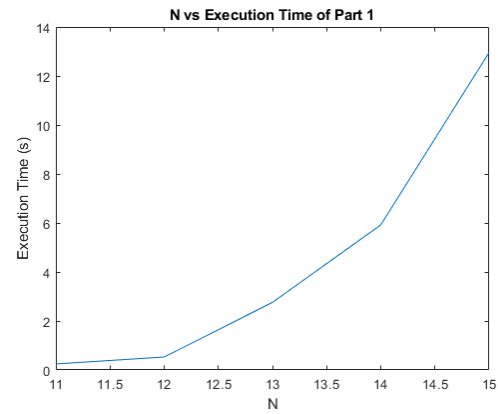
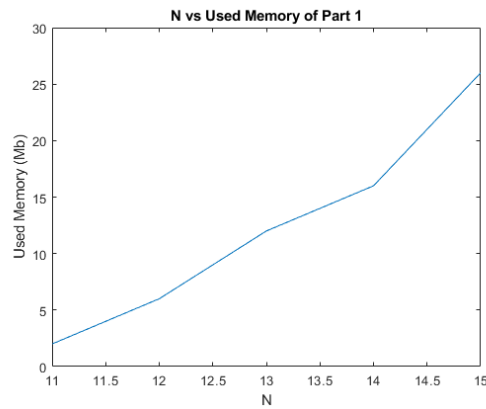
14x14

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 2"
MATRIX:
1 0 0 24 0 0 0 0 0 0 0 0 0 0
24 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 24 22 18 18 0 0 0 9 0 0
0 0 0 12 5 8 16 0 0 0 0 0 0 0
0 0 0 2 0 2 14 0 0 0 0 0 0 0
0 0 0 14 24 9 24 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 14 1
The determinant of the 1.matrix is: -8092
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 14 1
The determinant of the 2.matrix is: 915002
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 14 1
The determinant of the 3.matrix is: -63062
Used Ram size is 14 MegaByte.
Process returned 0 (0x0)   execution time : 0.575 s
Press any key to continue.
```

15x15

```
"C:\Users\alper\Desktop\EE\EE4-1\EE 441\Programming Assignment 3\Part 2"
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 24 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 14 1
The determinant of the 1.matrix is: -31283
MATRIX:
9 7 21 5 0 0 0 0 0 0 0 0 0 0 0
3 12 9 9 0 0 0 0 0 0 0 0 0 0 0
4 22 7 8 0 0 0 0 0 0 0 0 0 0 0
7 13 13 8 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 14 1
The determinant of the 2.matrix is: -2763
MATRIX:
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 14 1
The determinant of the 3.matrix is: -192
Used Ram size is 22 MegaByte.
Process returned 0 (0x0)   execution time : 1.634 s
Press any key to continue.
```

### Part-3



In all parts, while ram usage increases linearly but we cannot say the same thing for execution time. Since reaching the nodes of the tree is getting harder, execution time becomes increasing logarithmically.