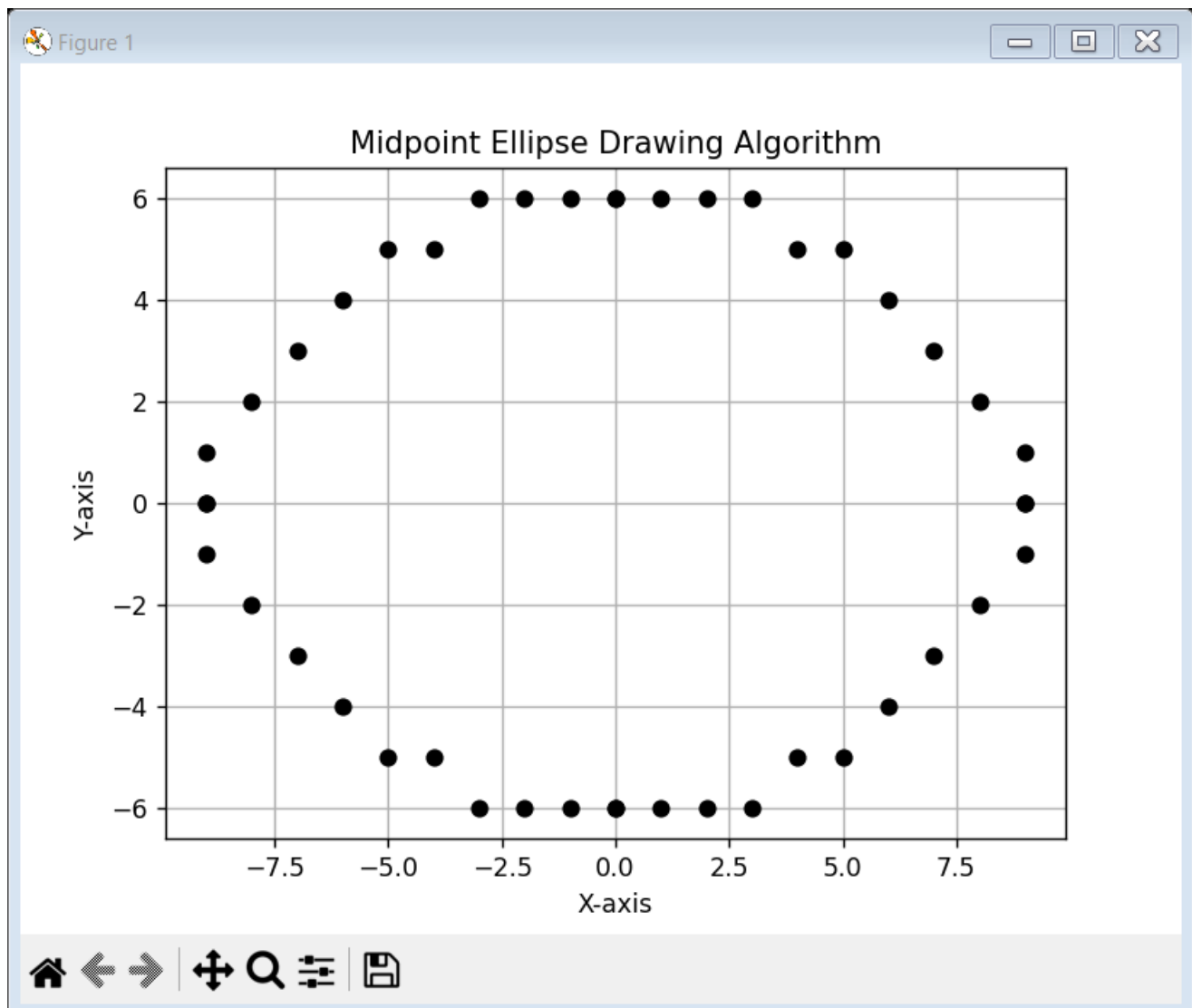


## Calculation:

```
C:\practicals 3rd sem\Computer graphics>python -u "c:\practicals 3rd sem\Computer graphics\subashhh
.py"
Enter the two centre point : 0 0
Enter radius for x and y : 8 6
Region 1:
X      Y      p1      p2      2rx2yk      2ry2xk
-----
0      6      0.00      6.00      -332.00      -695.00
1      6      1.00      6.00      -224.00      -695.00
2      6      2.00      6.00      -44.00       -695.00
3      6      3.00      6.00      208.00       -695.00
4      5      4.00      5.00      -108.00       -695.00
5      5      5.00      5.00      288.00       -695.00
6      4      6.00      4.00      244.00       -695.00
7      3      7.00      3.00      400.00       -695.00

Region 2:
X      Y      p1      p2      2rx2yk      2ry2xk
-----
8      2      400.00     -439.00      256.00       576.00
9      1      400.00      17.00      128.00       648.00
9      0      400.00      81.00       0.00        648.00
```

## Output:



## Calculation table:

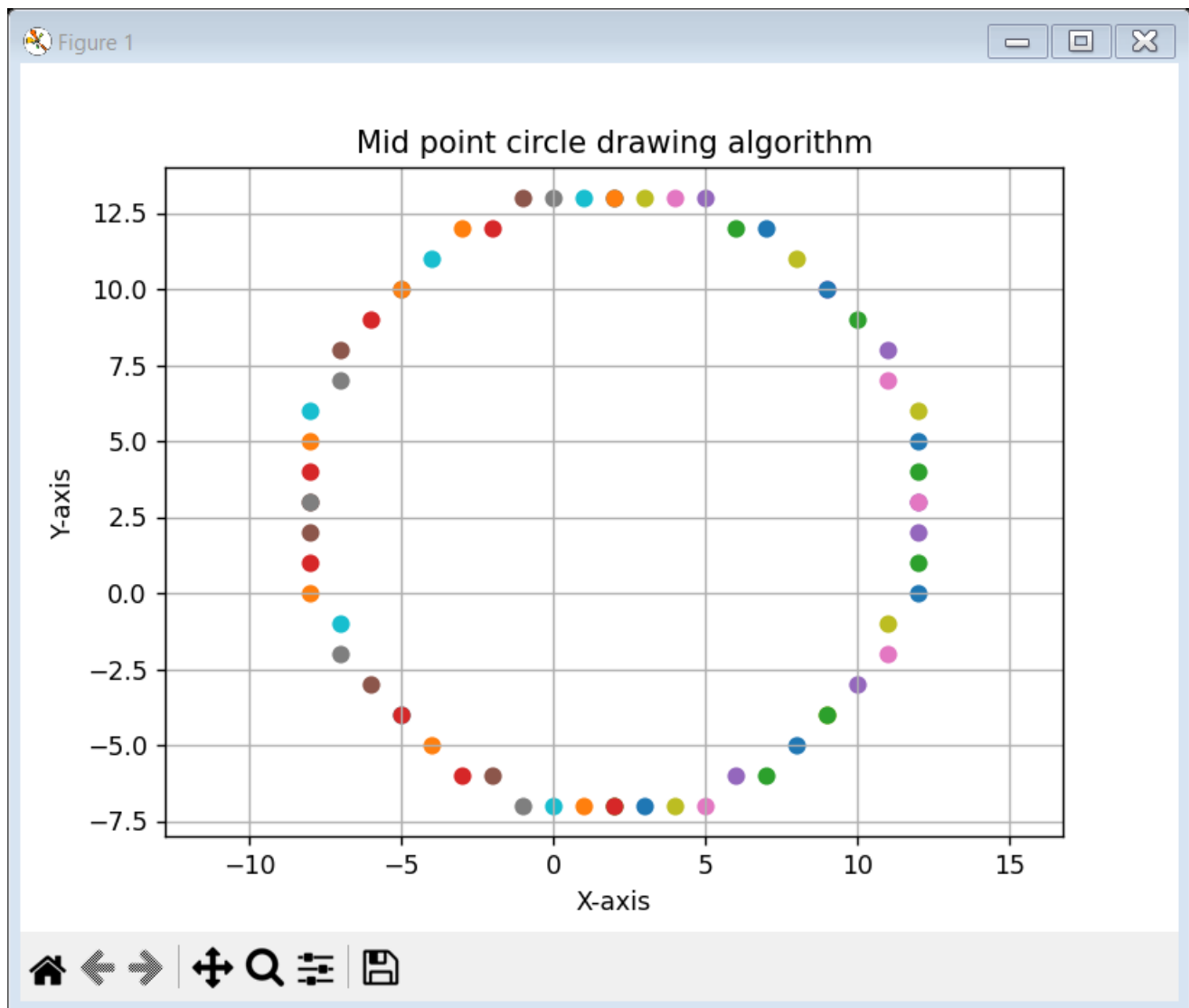
```
C:\practicals 3rd sem\Computer graphics>python -u "c:\practicals 3rd sem\Computer graphics\subashhh.py"
```

```
Enter the radius: 10
```

```
Enter the h and k: 2 3
```

Steps	Xk+1	Yk+1	Pk	(x,y)	(-x,y)	(x,-y)	(-x,-y)	(y,x)	(-y,x)	(y,-x)	(-y,-x)
0	2	13	-9	(2,13)	(2,13)	(2,-7)	(2,-7)	(12,3)	(-8,3)	(12,3)	(-8,3)
1	3	13	-6	(3,13)	(1,13)	(3,-7)	(1,-7)	(12,4)	(-8,4)	(12,2)	(-8,2)
2	4	13	-1	(4,13)	(0,13)	(4,-7)	(0,-7)	(12,5)	(-8,5)	(12,1)	(-8,1)
3	5	13	6	(5,13)	(-1,13)	(5,-7)	(-1,-7)	(12,6)	(-8,6)	(12,0)	(-8,0)
4	6	12	-3	(6,12)	(-2,12)	(6,-6)	(-2,-6)	(11,7)	(-7,7)	(11,-1)	(-7,-1)
5	7	12	8	(7,12)	(-3,12)	(7,-6)	(-3,-6)	(11,8)	(-7,8)	(11,-2)	(-7,-2)
6	8	11	5	(8,11)	(-4,11)	(8,-5)	(-4,-5)	(10,9)	(-6,9)	(10,-3)	(-6,-3)
7	9	10	6	(9,10)	(-5,10)	(9,-4)	(-5,-4)	(9,10)	(-5,10)	(9,-4)	(-5,-4)

## Output:



## Calculation table:

```
C:\practicals 3rd sem\Computer graphics>python -u "c:\practicals 3rd sem\Computer graphics\ntranf\Subash.py"
```

1. Translation
2. Rotation
3. Scaling
4. Exit

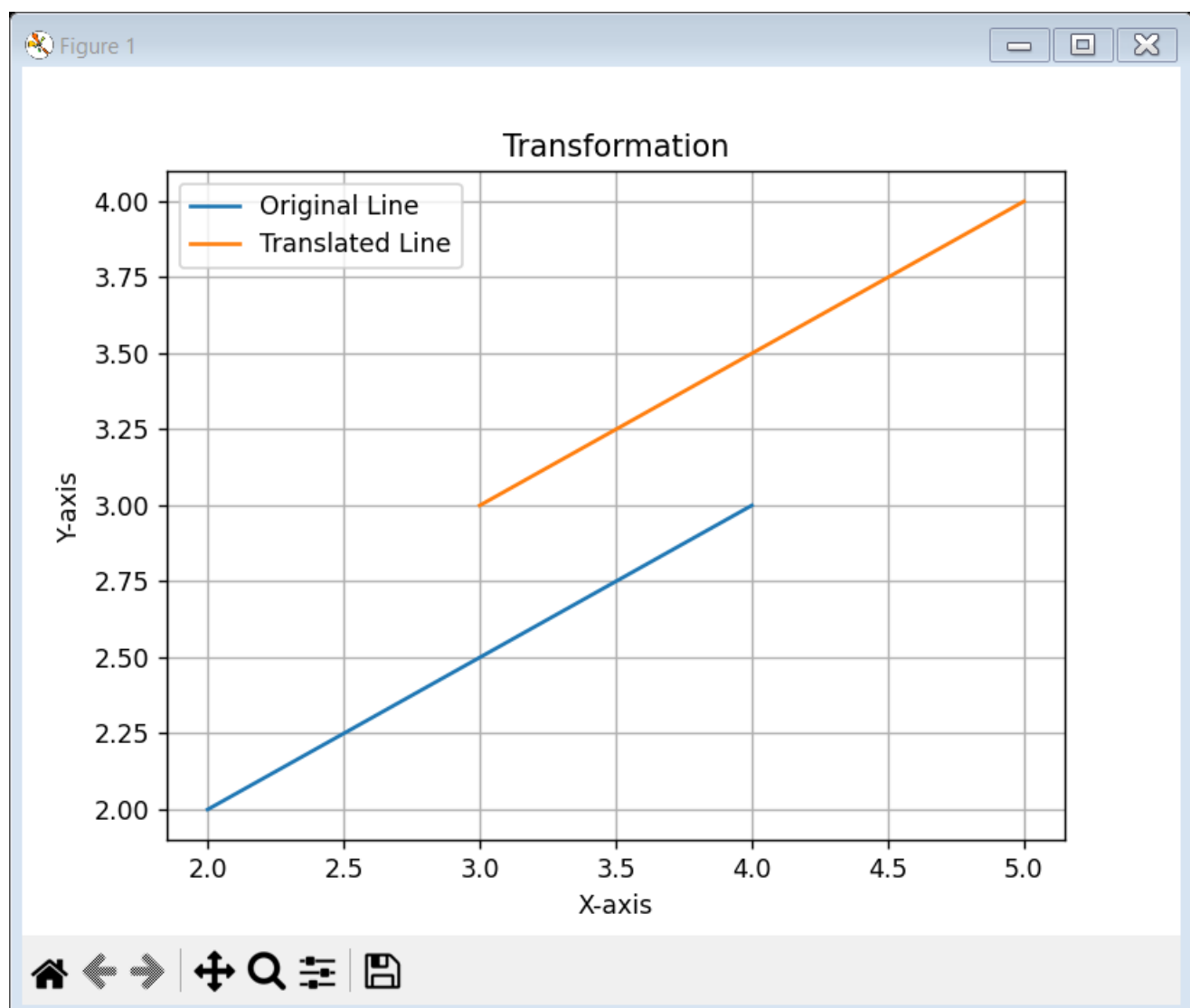
Enter your choice (1-4): 1

Enter the first coordinate of the line: 2 2

Enter the second coordinate of the line: 4 3

Enter the translated coordinate of the line: 1 1

## Output:



## Calculation table:

```
C:\practicals 3rd sem\Computer graphics>python -u "c:\ntranf\Subash.py"
```

1. Translation
2. Rotation
3. Scaling
4. Exit

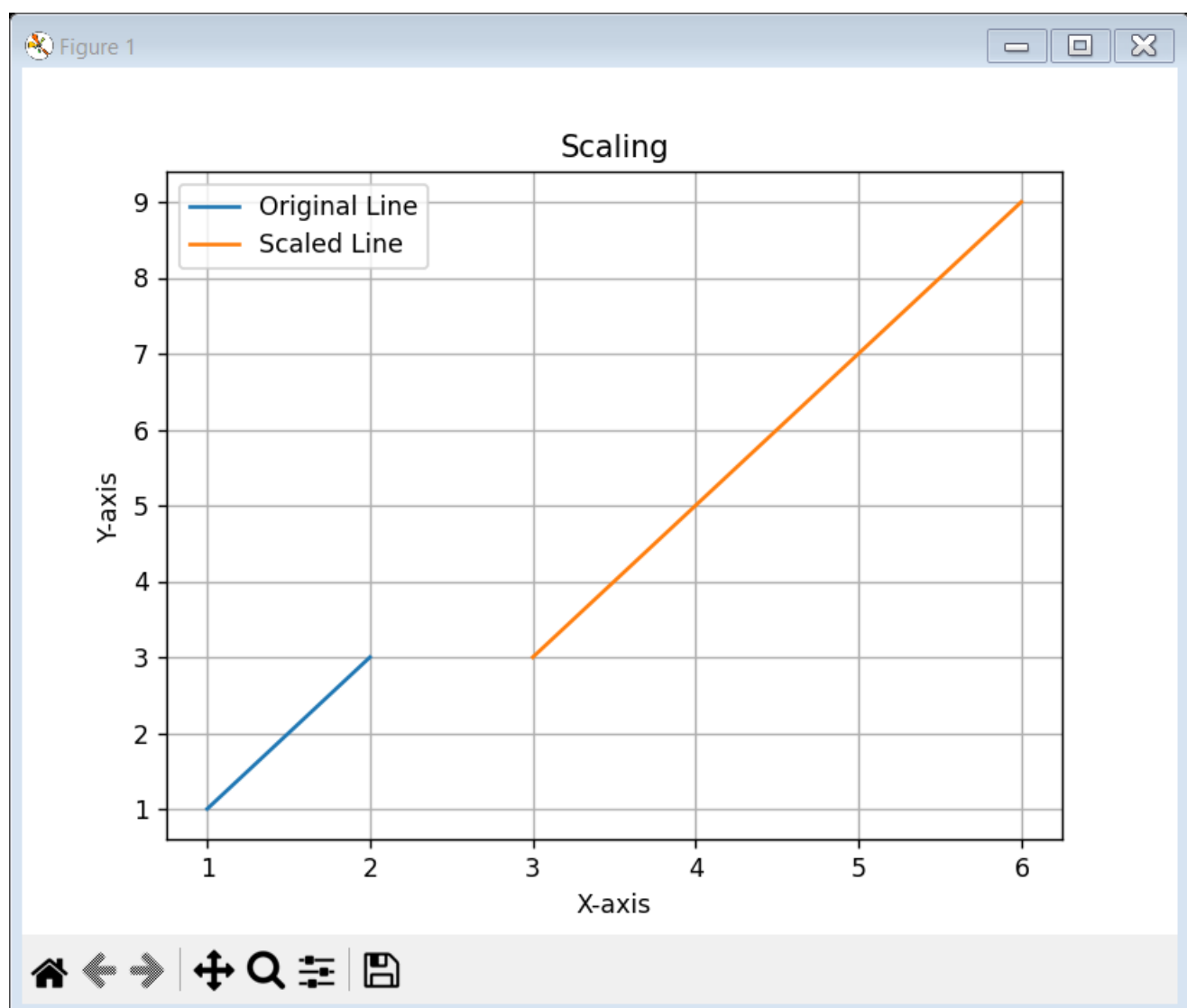
Enter your choice (1-4): 3

Enter the first coordinate of the line: 2 3

Enter the second coordinate of the line: 1 1

Enter the scaling coordinate of the line: 3 3

## Output:



## Calculation table:

```
C:\practicals 3rd sem\Computer graphics>python -u "c:\practicals 3rd sem\Computer graphics
_tranf\Subash.py"
```

1. Translation

2. Rotation

3. Scaling

4. Exit

Enter your choice (1-4): 2

Enter the angle in degrees: 30

Enter the starting coordinates: 3 4

Enter the ending coordinates: 2 1

Matrix before rotation:

Start Vector:

[3 4]

End Vector:

[2 1]

Matrix after rotation:

Result Vector:

[4.59807621 1.96410162]

Result after rotation: [4.59807621 1.96410162]

## Output:

