Contents

First, input the matrix A

```
A = [1:5; 6:10; 11:15; 16:20; 21:25];
```

The function named 'fun', which was used in this project to flip the matrix according to the requirement

```
% function B = fun(A)
% B = fliplr(fliplr(A).');
% end
```

The above function can written in another way and they will provide the same result

```
% Way 01
% function B = fun(A)
% B1 = A.'
% B2 = flip(B1)
% B = flip(B2,2)
% end

% Way 02
% function B = fun(A)
% B = rot90(A,2)'
% end
```

The function that will provide the matrix B

which is produced out of A after flipping the matrix along the line connecting the bottom left corner with the top right corner

```
fun(A)
```

```
ans =

    25    20    15    10     5
    24    19    14     9     4
    23    18    13     8     3
    22    17    12     7     2
```

```
    21    16    11     6     1
```

Creating a 15 times 15 matrix A

```
A = rand(15,15)
```

A =

  Columns 1 through 7

```
    0.2376    0.0690    0.0023    0.2392    0.7627    0.8406    0.4785
    0.8176    0.1668    0.6402    0.0293    0.8070    0.4688    0.3205
    0.4058    0.9474    0.8032    0.7023    0.6330    0.5452    0.6016
    0.4663    0.8111    0.2451    0.0076    0.7104    0.1791    0.9132
    0.9515    0.7105    0.0641    0.6109    0.6887    0.6345    0.6825
    0.9650    0.9702    0.2631    0.4081    0.3209    0.9630    0.9467
    0.7653    0.9984    0.1027    0.2489    0.5316    0.5340    0.0991
    0.5745    0.9875    0.4837    0.6525    0.8732    0.4796    0.5110
    0.9159    0.1501    0.4189    0.3203    0.0545    0.7937    0.1101
    0.4954    0.9585    0.3813    0.1037    0.5004    0.0927    0.5453
    0.1660    0.5305    0.8868    0.5356    0.4328    0.8808    0.6888
    0.3260    0.0741    0.4206    0.1649    0.9043    0.0039    0.1474
    0.2964    0.3118    0.2838    0.8834    0.6302    0.5115    0.7776
    0.5583    0.8952    0.0482    0.6665    0.9830    0.6785    0.3991
    0.0675    0.8348    0.2192    0.8477    0.5852    0.5657    0.8983
```

  Columns 8 through 14

```
    0.3070    0.3684    0.1230    0.4305    0.2158    0.9300    0.8968
    0.0611    0.0078    0.5800    0.4162    0.0787    0.5293    0.6761
    0.2195    0.6027    0.3285    0.7288    0.9331    0.6265    0.8284
    0.0828    0.4789    0.2682    0.4065    0.6029    0.6808    0.1101
    0.9504    0.3081    0.5502    0.9518    0.3775    0.9232    0.2792
    0.0164    0.7444    0.1805    0.9120    0.6649    0.1528    0.7676
    0.1147    0.8393    0.6785    0.9514    0.7922    0.4057    0.2161
    0.0124    0.2624    0.0557    0.3460    0.3335    0.3125    0.0341
    0.2162    0.5142    0.0341    0.2902    0.6927    0.6939    0.4366
    0.0114    0.4468    0.2865    0.8867    0.2038    0.8907    0.9369
    0.6424    0.3412    0.0774    0.2100    0.9587    0.4907    0.2621
    0.5170    0.8391    0.9006    0.1309    0.7118    0.8058    0.5697
    0.2455    0.9825    0.8466    0.5205    0.1669    0.3264    0.3596
    0.1937    0.6265    0.3957    0.9055    0.4428    0.5499    0.0268
    0.0909    0.1813    0.1692    0.4025    0.6330    0.3888    0.5004
```
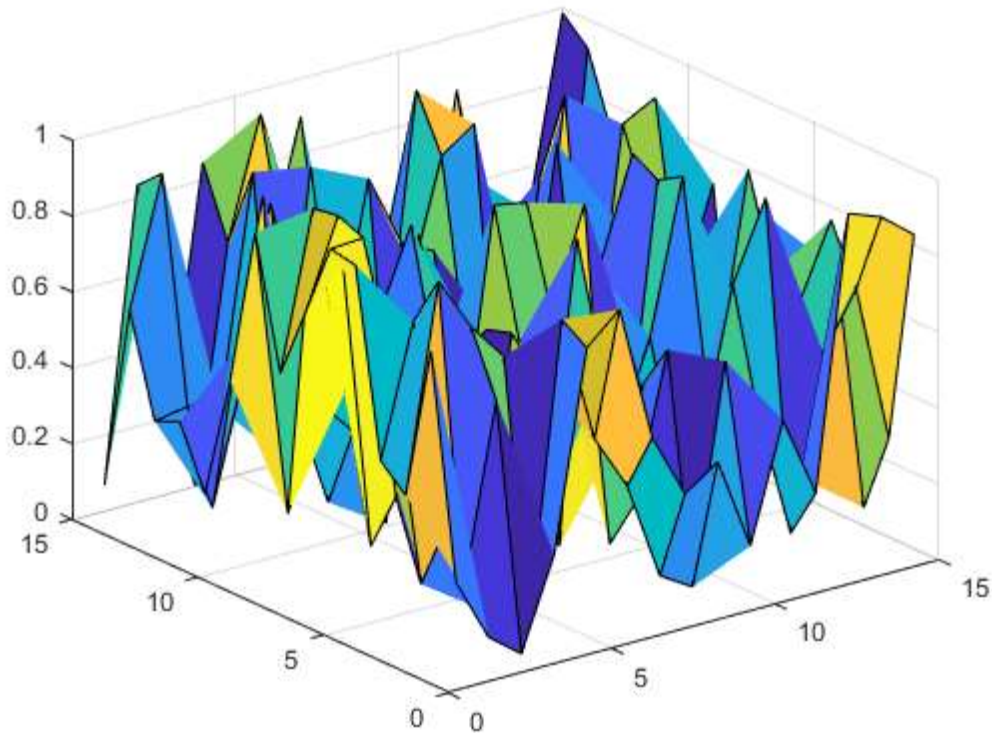
  Column 15

```
    0.8270
    0.2590
    0.0459
    0.2465
    0.6607
    0.3294
    0.6595
    0.0130
```

```
0.7181
0.3911
0.0335
0.4060
0.7163
0.9213
0.9840
```

Ploting matrix A with surf function

```
surf(A);
```


Applying the function to matrix A which provides another 15 times 15 matrix B

```
B = fun(A)
```

```
B =

  Columns 1 through 7

    0.9840    0.9213    0.7163    0.4060    0.0335    0.3911    0.7181
    0.5004    0.0268    0.3596    0.5697    0.2621    0.9369    0.4366
    0.3888    0.5499    0.3264    0.8058    0.4907    0.8907    0.6939
    0.6330    0.4428    0.1669    0.7118    0.9587    0.2038    0.6927
    0.4025    0.9055    0.5205    0.1309    0.2100    0.8867    0.2902
    0.1692    0.3957    0.8466    0.9006    0.0774    0.2865    0.0341
    0.1813    0.6265    0.9825    0.8391    0.3412    0.4468    0.5142
```

```
    0.0909    0.1937    0.2455    0.5170    0.6424    0.0114    0.2162
    0.8983    0.3991    0.7776    0.1474    0.6888    0.5453    0.1101
    0.5657    0.6785    0.5115    0.0039    0.8808    0.0927    0.7937
    0.5852    0.9830    0.6302    0.9043    0.4328    0.5004    0.0545
    0.8477    0.6665    0.8834    0.1649    0.5356    0.1037    0.3203
    0.2192    0.0482    0.2838    0.4206    0.8868    0.3813    0.4189
    0.8348    0.8952    0.3118    0.0741    0.5305    0.9585    0.1501
    0.0675    0.5583    0.2964    0.3260    0.1660    0.4954    0.9159


Columns 8 through 14

    0.0130    0.6595    0.3294    0.6607    0.2465    0.0459    0.2590
    0.0341    0.2161    0.7676    0.2792    0.1101    0.8284    0.6761
    0.3125    0.4057    0.1528    0.9232    0.6808    0.6265    0.5293
    0.3335    0.7922    0.6649    0.3775    0.6029    0.9331    0.0787
    0.3460    0.9514    0.9120    0.9518    0.4065    0.7288    0.4162
    0.0557    0.6785    0.1805    0.5502    0.2682    0.3285    0.5800
    0.2624    0.8393    0.7444    0.3081    0.4789    0.6027    0.0078
    0.0124    0.1147    0.0164    0.9504    0.0828    0.2195    0.0611
    0.5110    0.0991    0.9467    0.6825    0.9132    0.6016    0.3205
    0.4796    0.5340    0.9630    0.6345    0.1791    0.5452    0.4688
    0.8732    0.5316    0.3209    0.6887    0.7104    0.6330    0.8070
    0.6525    0.2489    0.4081    0.6109    0.0076    0.7023    0.0293
    0.4837    0.1027    0.2631    0.0641    0.2451    0.8032    0.6402
    0.9875    0.9984    0.9702    0.7105    0.8111    0.9474    0.1668
    0.5745    0.7653    0.9650    0.9515    0.4663    0.4058    0.8176


Column 15

    0.8270
    0.8968
    0.9300
    0.2158
    0.4305
    0.1230
    0.3684
    0.3070
    0.4785
    0.8406
    0.7627
    0.2392
    0.0023
    0.0690
    0.2376
```

Ploting the matrix B using surf function

```
surf(B);
```