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```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% ENGR 132
% Program Description
%   ...
%
% Assignment Information
%   Assignment:           PS 02, Problem 1
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%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

INITIALIZATION

```
A = zeros(4,4)
vals = [1 3 2 4;5 6 7 8;9 10 11 12;13 15 14 16]
```

A =

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

vals =

1	3	2	4
5	6	7	8
9	10	11	12
13	15	14	16

COPY & CONCATENATION

```
M = vals(2:3,2:3)
C = vals(1,2:3)
D = vals(4,2:3)
E=[vals(1,1),D,vals(1,4)]
F=[vals(4,1),C,vals(4,4)]
```

M =

6	7
10	11

C =

3	2
---	---

D =

15	14
----	----

E =

1	15	14	4
---	----	----	---

F =

13	3	2	16
----	---	---	----

REPLACE MATRIX ELEMENTS

```
A(1,:)=E
A(4,:)=F
A(2:3,2:3)=M
A(2,1) = vals(3,4)
A(3,1) = vals(4,1)
A(2,4) = vals(3,1)
A(3,4) = vals(2,1)
```

A =

1	15	14	4
0	0	0	0
0	0	0	0
0	0	0	0

A =

1	15	14	4
0	0	0	0
0	0	0	0
13	3	2	16

A =

1	15	14	4
0	6	7	0
0	10	11	0
13	3	2	16

A =

1	15	14	4
12	6	7	0
0	10	11	0
13	3	2	16

A =

1	15	14	4
12	6	7	0
13	10	11	0
13	3	2	16

A =

1	15	14	4
12	6	7	9
13	10	11	0
13	3	2	16

A =

1	15	14	4
12	6	7	9
13	10	11	5
13	3	2	16

FINAL MATRIX

```
X = sum(A)
G = [A;X]
Y = sum(G,2)
H=[G,Y]
H(5,5)=H(1,1)+H(2,2)+H(3,3)+H(4,4)
```

X =

39	34	34	34
----	----	----	----

G =

1	15	14	4
12	6	7	9
13	10	11	5
13	3	2	16
39	34	34	34

Y =

34
34
39
34
141

H =

1	15	14	4	34
12	6	7	9	34
13	10	11	5	39
13	3	2	16	34
39	34	34	34	141

H =

1	15	14	4	34
12	6	7	9	34
13	10	11	5	39
13	3	2	16	34
39	34	34	34	34

FORMATTED TEXT DISPLAY

```
fprintf('After doing step 8.e, the value in the center of H is %f.\n',H(3,3))
fprintf('\nAfter doing step 8.e, the value in the upper left of H is %f.\n',H(1,1))
fprintf('and the value in the upper right of H is %f.\n\n',H(1,5))
fprintf('After doing step 8.e, the value in the lower left of H is %f,\n',H(5,1))
fprintf('and the value in lower right of H is %f.\n',H(5,5))
```

After doing step 8.e, the value in the center of H is 11.000000.

After doing step 8.e, the value in the upper left of H is 1.000000.
and the value in the upper right of H is 34.000000.

After doing step 8.e, the value in the lower left of H is 39.000000,
and the value in lower right of H is 34.000000.

ACADEMIC INTEGRITY STATEMENT

I/We have not used source code obtained from any other unauthorized source, either modified or unmodified. Neither have I/we provided access to my/our code to another. The project I/we am/are submitting is my/our own original work.

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