

Lab Exercise Report 0

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Problem 1

```
Command Window
>> rand(1,20)<=0.3
ans =
1x20 logical array
0 1 0 0 0 0 0 0 0 0 1 0 1 1 1 1 0 0 0 0 1
```

Problem 2

```
>> A = randi([1,10],[3,6])
A =
     6     3     9     2     9     3
     3     6    10     2     3    10
     8     7     6     3     9     4

>> B = zeros([3,6])
B =
     0     0     0     0     0     0
     0     0     0     0     0     0
     0     0     0     0     0     0

>> B(:,1:2:end) = A(:,1:2:end)
B =
     6     0     9     0     9     0
     3     0    10     0     3     0
     8     0     6     0     9     0

>> B(:,2:2:end) = A(:,2:2:end) .* (2:2:6)
B =
     6     6     9     8     9    18
     3    12    10     8     3    60
     8    14     6    12     9    24
```

Problem 3

```
>> A = randi([1,10],[10,10])
```

```
A =
```

9	9	2	6	5	10	2	1	9	9
10	3	3	5	3	8	4	9	2	2
8	6	2	2	10	8	2	6	10	2
6	7	2	5	1	1	1	9	6	4
10	1	1	9	2	9	10	4	8	1
6	7	7	9	2	10	4	5	10	6
1	4	3	3	2	10	3	1	3	4
2	1	6	3	7	9	4	2	5	2
9	5	7	6	6	8	5	7	5	3
5	2	5	7	1	6	7	4	8	10

```
>> C = (A >= 3) .* (A <= 8)
```

```
C =
```

0	0	0	1	1	0	0	0	0	0
0	1	1	1	1	1	1	0	0	0
1	1	0	0	0	1	0	1	0	0
1	1	0	1	0	0	0	0	1	1
0	0	0	0	0	0	0	1	1	0
1	1	1	0	0	0	1	1	0	1
0	1	1	1	0	0	1	0	1	1
0	0	1	1	1	0	1	0	1	0
0	1	1	1	1	1	1	1	1	1
1	0	1	1	0	1	1	1	1	0

```
>> B = zeros([2,2]);
```

```
for row=1:2:size(A,1)
```

```
    for col=1:2:size(A,2)
```

```
        if C([row,row+1],[col,col+1])
```

```
            sumA = sum(A([row,row+1],[col,col+1]),'all');
```

```
            sumB = sum(B,'all');
```

```
            if sumB == 0
```

```
                B = A([row,row+1],[col,col+1]);
```

```
            elseif sumA < sumB
```

```
                B = A([row,row+1],[col,col+1]);
```

```
            end
```

```
        end
```

```
    end
```

```
end
```

```
>> B
```

```
B =
```

3	3
6	3

```
>> |
```