```
% Coleman Lyski
%
% October 31, 2016
%
% Lecture 10
```

Nesty

```
clear; clc; close all; home;
commandwindow;
k=1;
while k<=2
    fprintf('k = %0i\n',k)
    for l=1:2
        fprintf('k = %0i, l = %0i\n',k,l)
        for m=1:2
            fprintf('k = %0i, l = %0i, m = %0i\n',k,l,m)
            for n=1:2
                fprintf('k = %0i, l = %0i, m = %0i, n = %0i
\n',k,l,m,n)
                for o=1:2
                    fprintf('k = %0i, l = %0i, m = %0i, n = %0i, o =
 %0i\n',k,l,m,n,o)
                end
            end
        end
    end
    k=k+1;
end
```

```
k = 1
k = 1, l = 1
k = 1, l = 1, m = 1
k = 1, l = 1, m = 1, n = 1
k = 1, l = 1, m = 1, n = 1, o = 1
k = 1, l = 1, m = 1, n = 1, o = 2
k = 1, l = 1, m = 1, n = 2
k = 1, l = 1, m = 1, n = 2, o = 1
k = 1, l = 1, m = 1, n = 2, o = 2
k = 1, l = 1, m = 2
k = 1, l = 1, m = 2, n = 1
k = 1, l = 1, m = 2, n = 1, o = 1
k = 1, l = 1, m = 2, n = 1, o = 2
k = 1, l = 1, m = 2, n = 2
k = 1, l = 1, m = 2, n = 2, o = 1
k = 1, l = 1, m = 2, n = 2, o = 2
k = 1, l = 2
k = 1, l = 2, m = 1
k = 1, l = 2, m = 1, n = 1
k = 1, l = 2, m = 1, n = 1, o = 1
k = 1, l = 2, m = 1, n = 1, o = 2
k = 1, l = 2, m = 1, n = 2
```

```
k = 1, l = 2, m = 1, n = 2, o = 1
k = 1, l = 2, m = 1, n = 2, o = 2
k = 1, l = 2, m = 2
k = 1, l = 2, m = 2, n = 1
k = 1, l = 2, m = 2, n = 1, o = 1
k = 1, l = 2, m = 2, n = 1, o = 2
k = 1, l = 2, m = 2, n = 2
k = 1, l = 2, m = 2, n = 2, o = 1
k = 1, l = 2, m = 2, n = 2, o = 2
k = 2
k = 2, l = 1
k = 2, l = 1, m = 1
k = 2, l = 1, m = 1, n = 1
k = 2, l = 1, m = 1, n = 1, o = 1
k = 2, l = 1, m = 1, n = 1, o = 2
k = 2, l = 1, m = 1, n = 2
k = 2, l = 1, m = 1, n = 2, o = 1
k = 2, l = 1, m = 1, n = 2, o = 2
k = 2, l = 1, m = 2
k = 2, l = 1, m = 2, n = 1
k = 2, l = 1, m = 2, n = 1, o = 1
k = 2, l = 1, m = 2, n = 1, o = 2
k = 2, l = 1, m = 2, n = 2
k = 2, l = 1, m = 2, n = 2, o = 1
k = 2, l = 1, m = 2, n = 2, o = 2
k = 2, l = 2
k = 2, l = 2, m = 1
k = 2, l = 2, m = 1, n = 1
k = 2, l = 2, m = 1, n = 1, o = 1
k = 2, l = 2, m = 1, n = 1, o = 2
k = 2, l = 2, m = 1, n = 2
k = 2, l = 2, m = 1, n = 2, o = 1
k = 2, l = 2, m = 1, n = 2, o = 2
k = 2, l = 2, m = 2
k = 2, l = 2, m = 2, n = 1
k = 2, l = 2, m = 2, n = 1, o = 1
k = 2, l = 2, m = 2, n = 1, o = 2
k = 2, l = 2, m = 2, n = 2
k = 2, l = 2, m = 2, n = 2, o = 1
k = 2, l = 2, m = 2, n = 2, o = 2
```

Pro-G

```
clear; clc; close all; home;
commandwindow;
a=randi([1 10],[3 3]);
b=randi([1 10],[3 3]);
[rowa,cola]=size(a);
[rowb,colb]=size(b);
if cola == rowb
    fprintf('\nThis will work\n')
    c = zeros(cola,rowb);
    for rowc=1:rowa
```

```
        for colc=1:colb
            fprintf('\nc(%0i,%0i)',rowc,colc)
            for k=1:rowb
                c(rowc,colc)=c(rowc,colc)+a(rowc,k)*b(k,colc)
            end
        end
    end
else
    fprintf('\nThe inner indices must be equal\n')
end
truec = a*b;
if truec == c
    fprintf('\nCorrect!')
else
    fprinft('\nIncorrect')
end
```

This will work

```
c(1,1)
c =

    30     0     0
     0     0     0
     0     0     0


c =

   111     0     0
     0     0     0
     0     0     0


c =

   147     0     0
     0     0     0
     0     0     0


c(1,2)
c =

   147     9     0
     0     0     0
     0     0     0


c =

   147    63     0
     0     0     0
```

```
     0     0     0


c =

   147    67     0
     0     0     0
     0     0     0


c(1,3)
c =

   147    67    15
     0     0     0
     0     0     0


c =

   147    67    51
     0     0     0
     0     0     0


c =

   147    67    59
     0     0     0
     0     0     0


c(2,1)
c =

   147    67    59
    70     0     0
     0     0     0


c =

   147    67    59
   160     0     0
     0     0     0


c =

   147    67    59
   214     0     0
     0     0     0
```

```
c(2,2)
c =

   147    67    59
   214    21     0
     0     0     0


c =

   147    67    59
   214    81     0
     0     0     0


c =

   147    67    59
   214    87     0
     0     0     0


c(2,3)
c =

   147    67    59
   214    87    35
     0     0     0


c =

   147    67    59
   214    87    75
     0     0     0


c =

   147    67    59
   214    87    87
     0     0     0


c(3,1)
c =

   147    67    59
   214    87    87
    30     0     0


c =
```

```
   147    67    59
   214    87    87
   102     0     0


c =

   147    67    59
   214    87    87
   120     0     0


c(3,2)
c =

   147    67    59
   214    87    87
   120     9     0


c =

   147    67    59
   214    87    87
   120    57     0


c =

   147    67    59
   214    87    87
   120    59     0


c(3,3)
c =

   147    67    59
   214    87    87
   120    59    15


c =

   147    67    59
   214    87    87
   120    59    47


c =

   147    67    59
   214    87    87
   120    59    51
```

```
Correct!
```

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