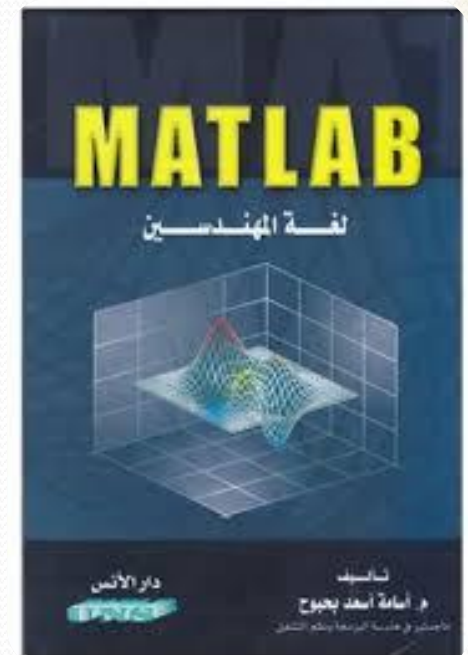
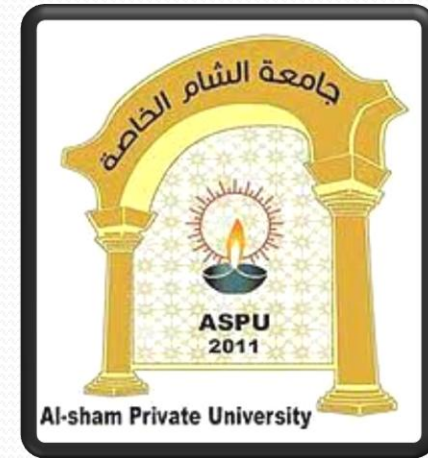


Computer Skills

Lecture 7

MATLAB (2)

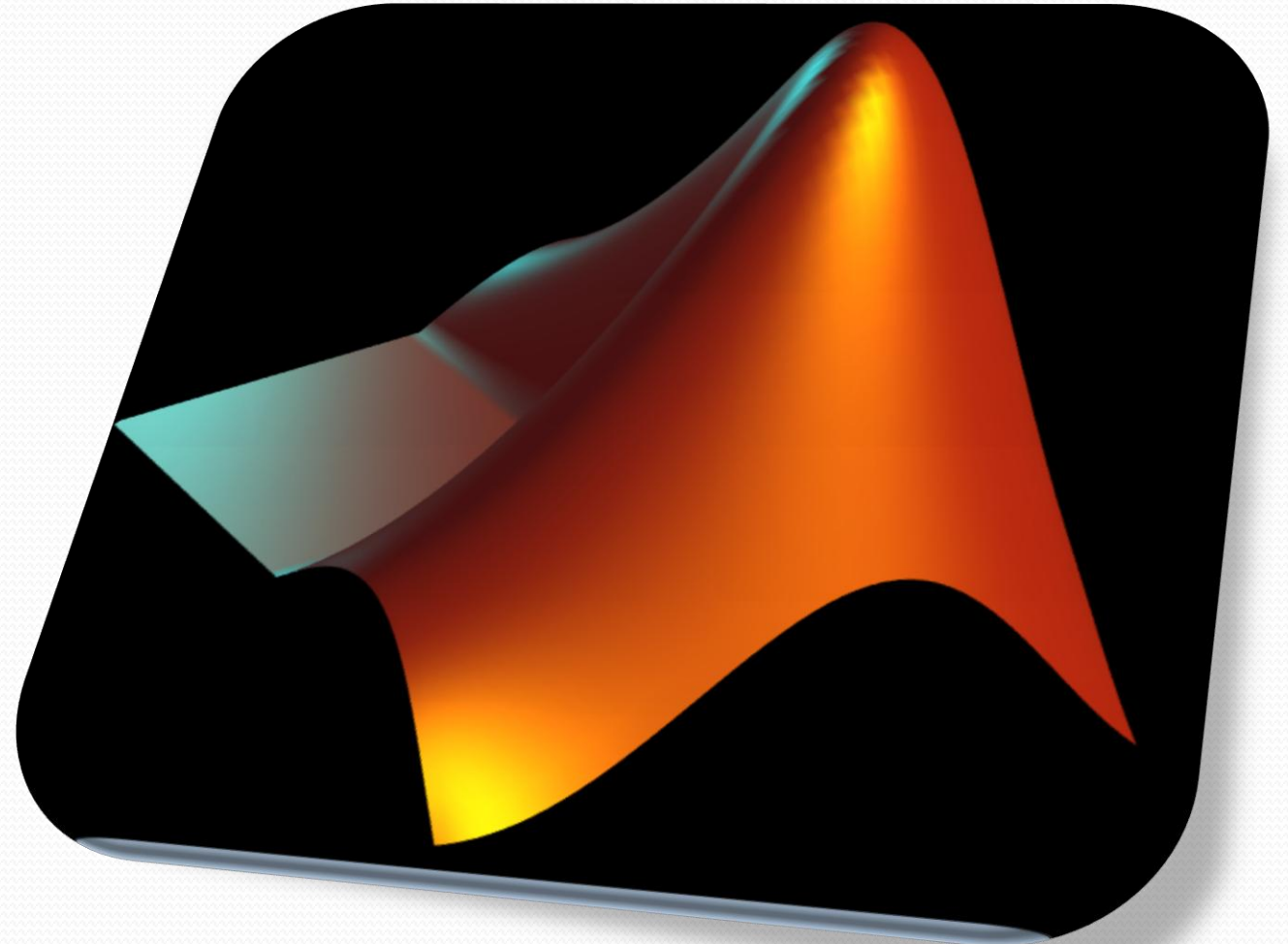
Ph.D. Eng. Ousama Bahbouh



CONTENTS

1. Complex Numbers

2. Arrays



1. COMPLEX NUMBERS:

تعريف الأعداد العقدية في الماتلاب:

ليس للأعداد العقدية طريقة تعريف خاصة، إنما تكتب بالشكل المعتاد ويتعرف عليها الماتلاب مباشرة.

1. COMPLEX NUMBERS:

```
>> im=33+5i
```

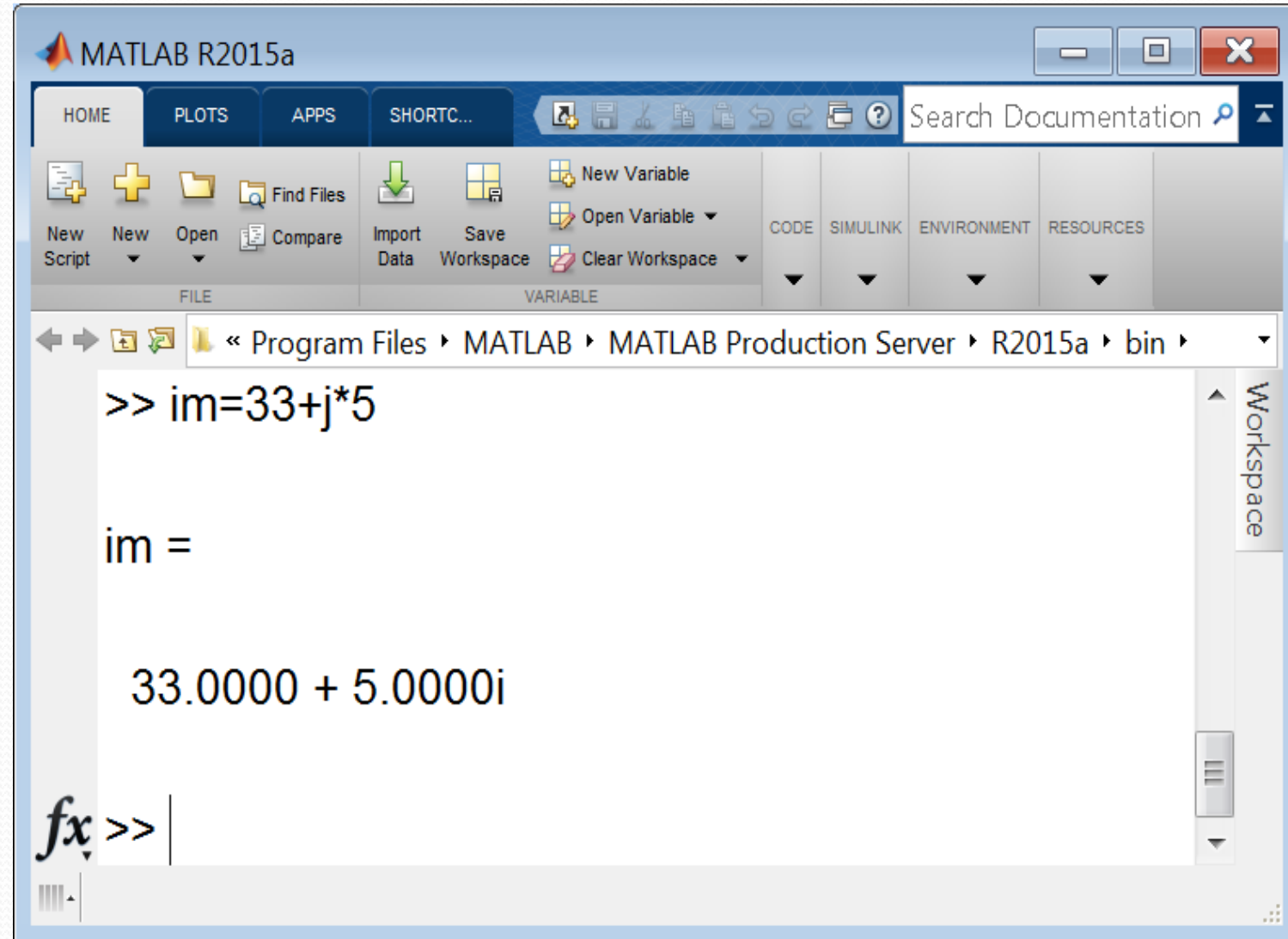
```
>> im=33+5j
```

```
>> im=33+i5
```

```
>> im=33+j5
```

```
>> im=33+i*5
```

```
>> im=33+j*5
```



The image shows the MATLAB R2015a interface. The Command Window displays the following code and output:

```
>> im=33+j*5  
  
im =  
  
33.0000 + 5.0000i
```

The Command Window prompt is `fx >> |`. The Workspace panel on the right is empty.

2. ARRAYS:

```
>> ar1=[2 4 6 8 10]
```

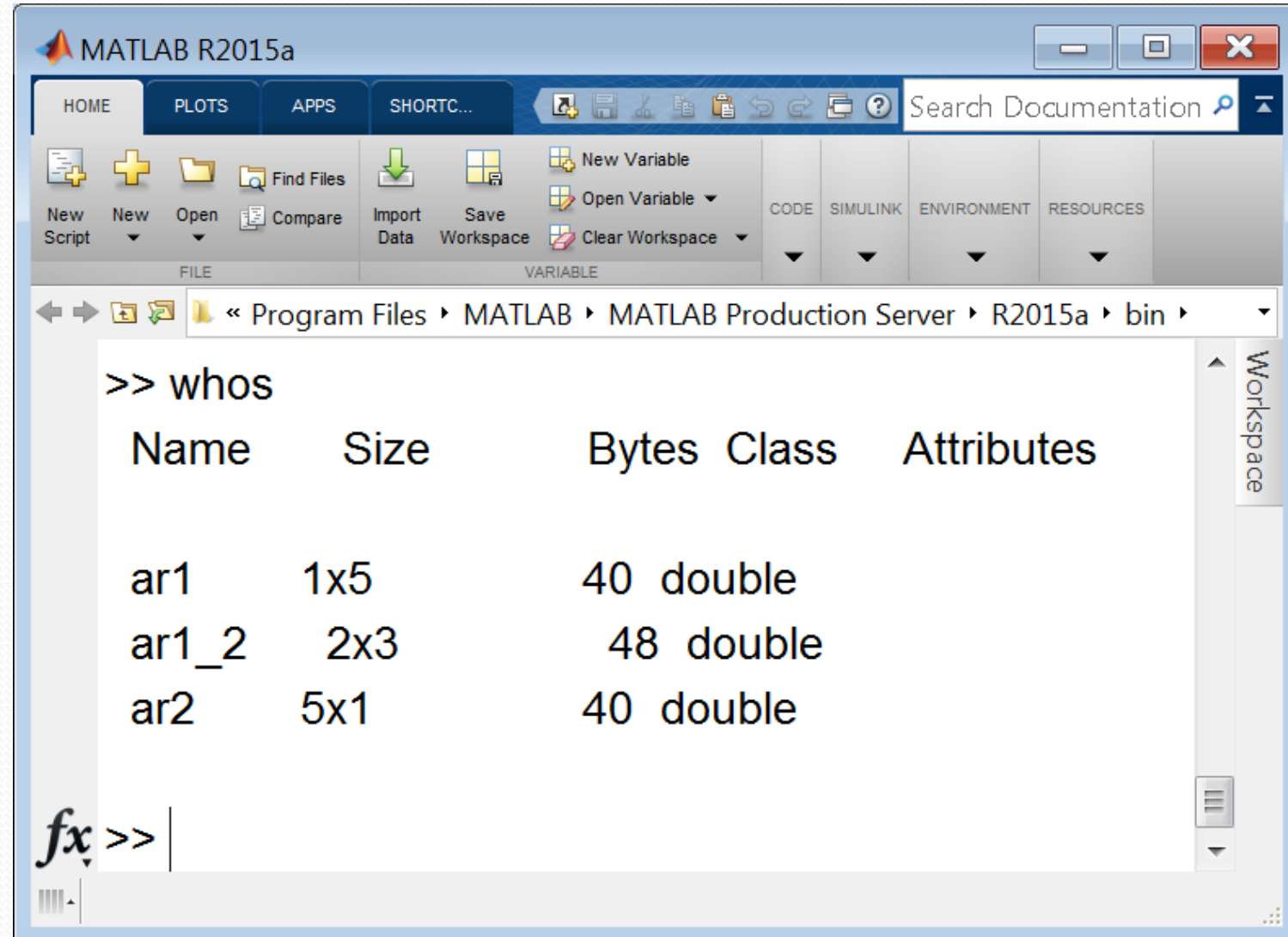
```
>> ar1=[2, 4, 6, 8, 10]
```

```
>> ar2=[1; 3; 5; 7; 9]
```

```
>> ar1_2=[1 2 3; 4 5 6]
```

```
>> ar1_2=[1 2 3; 4 5 6 7]
```

```
>> whos
```



```
MATLAB R2015a
```

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New Script New Open Find Files Compare Import Data Save Workspace New Variable Open Variable Clear Workspace

FILE VARIABLE

« Program Files ▸ MATLAB ▸ MATLAB Production Server ▸ R2015a ▸ bin ▸

```
>> whos
```

Name	Size	Bytes	Class	Attributes
ar1	1x5	40	double	
ar1_2	2x3	48	double	
ar2	5x1	40	double	

fx >> |

Workspace

2. ARRAYS:

```
>> ar3=10+ar1
```

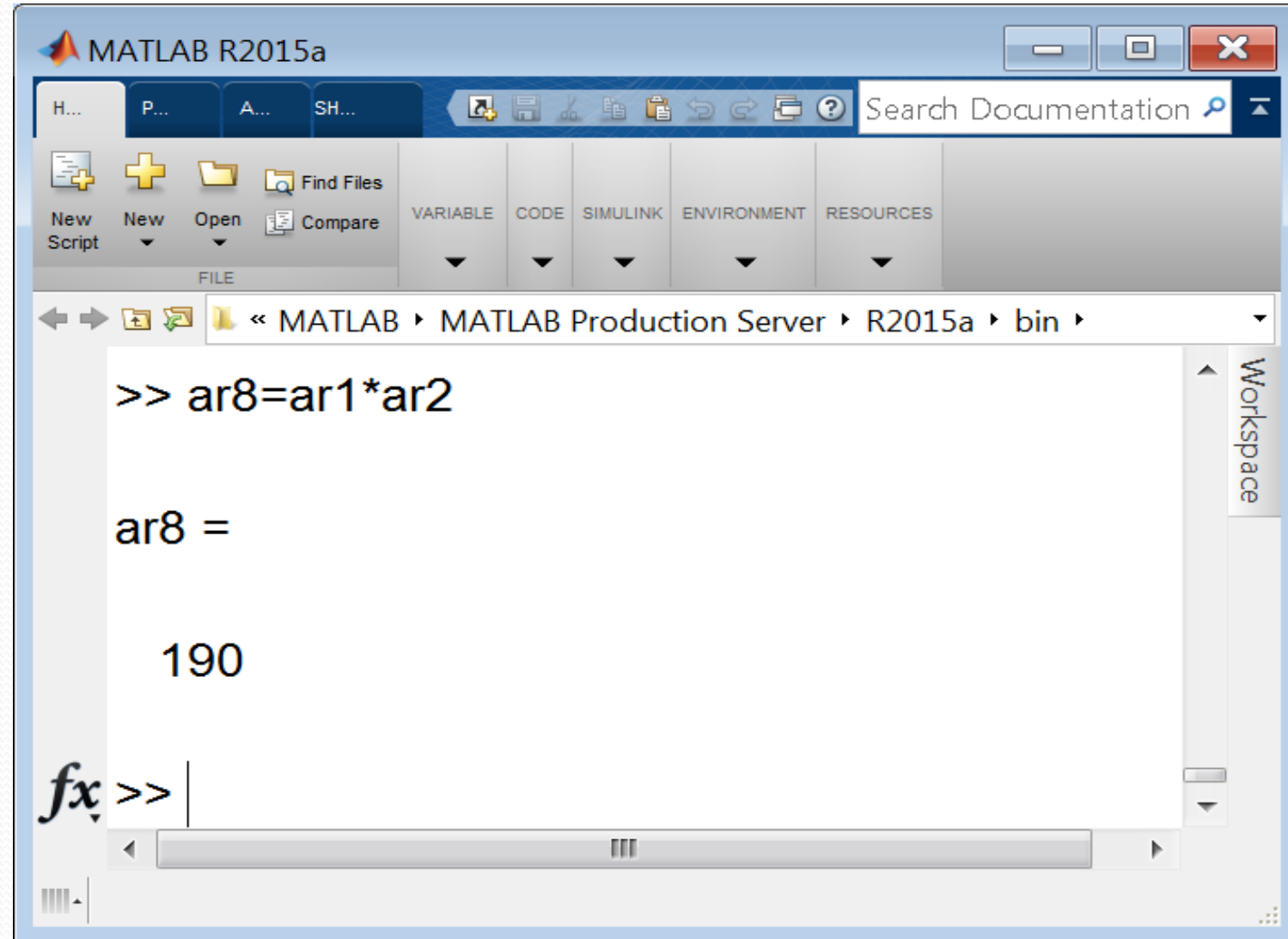
```
>> ar4=10*ar1
```

```
>> ar5=10/ar1
```

```
>> ar6=ar1+ar3
```

```
>> ar7=ar1*ar3
```

```
>> ar8=ar1*ar2
```



MATLAB R2015a

Search Documentation

FILE

« MATLAB ▸ MATLAB Production Server ▸ R2015a ▸ bin ▸

```
>> ar8=ar1*ar2
```

ar8 =

190

fx >> |

Workspace

2. ARRAYS:

```
>> A=[2 4 6 8; 10 12 14 16;18 20 22 24]
```

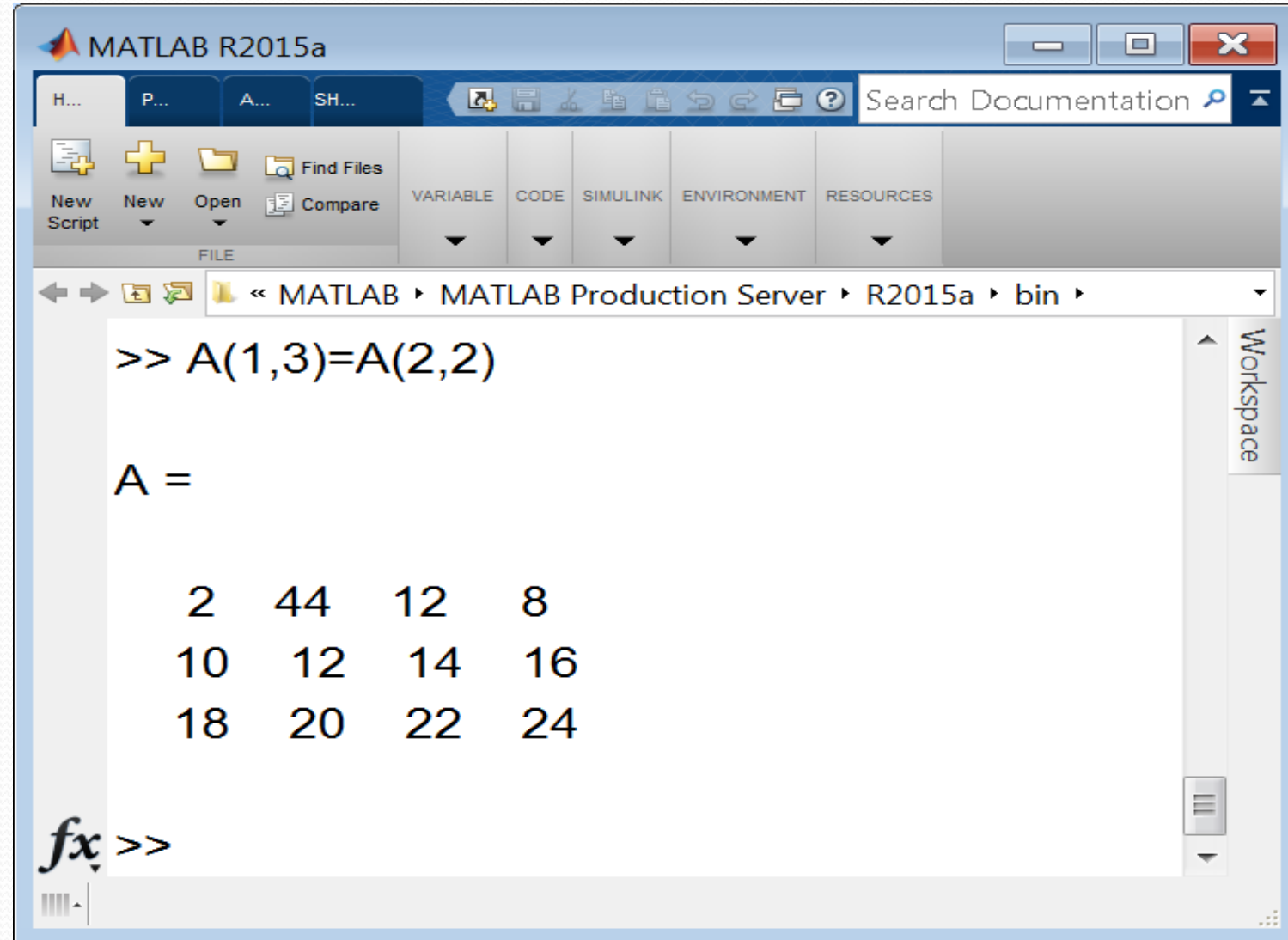
```
>> A(1,3)
```

```
>> A(2,1)
```

```
>> V=A(2,4)+A(1,3)
```

```
>> A(1,2)=44
```

```
>> A(1,3)=A(2,2)
```



```
MATLAB R2015a
```

Search Documentation

FILE

« MATLAB ▶ MATLAB Production Server ▶ R2015a ▶ bin ▶

```
>> A(1,3)=A(2,2)
```

```
A =
```

2	44	12	8
10	12	14	16
18	20	22	24

```
fx >>
```

2. ARRAYS:

```
>> A(2,6)=100
```

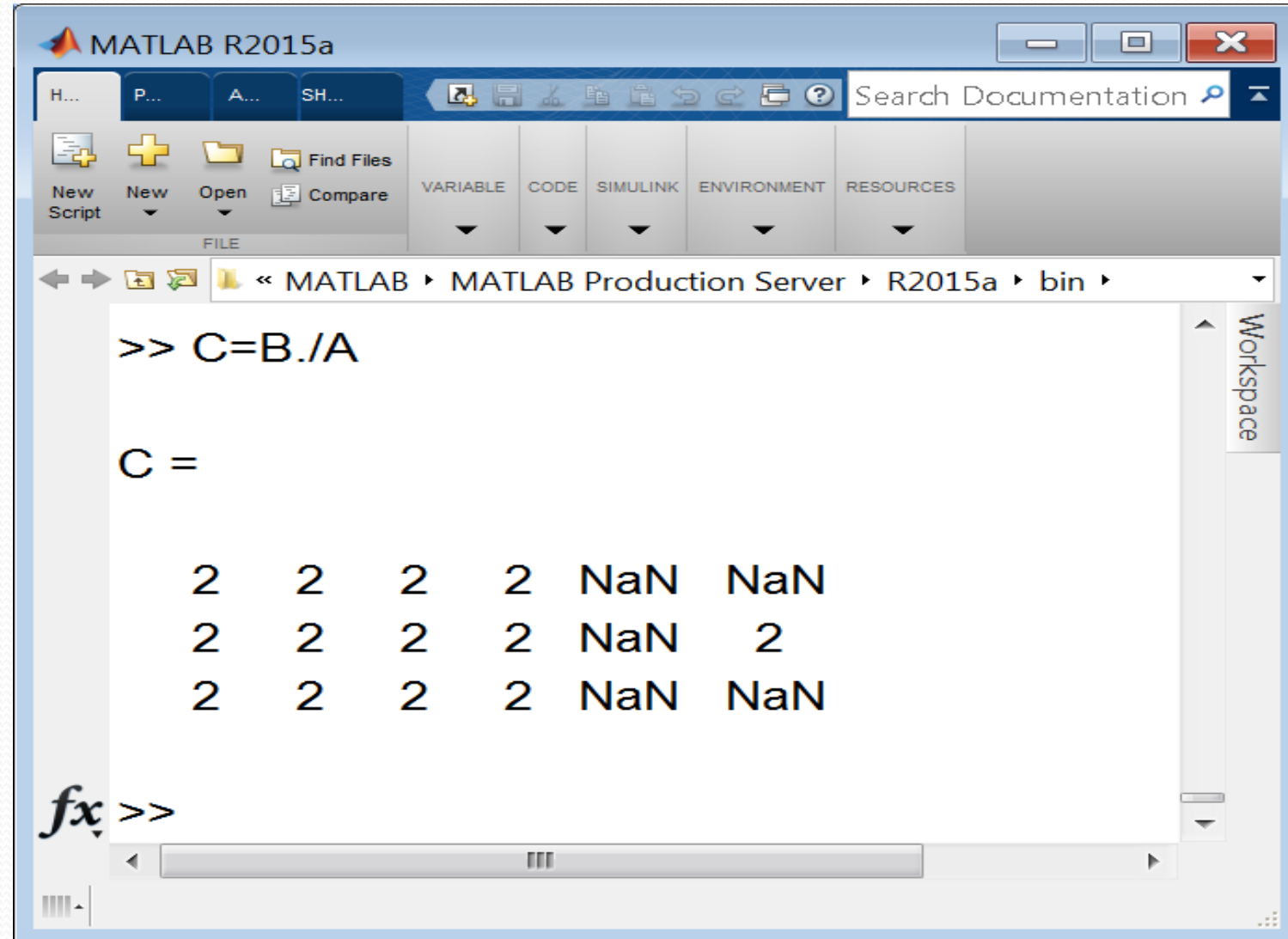
```
>> A+A
```

```
>> B=A+A
```

```
>> C=B*A
```

```
>> C=B.*A
```

```
>> C=B./A
```



```
MATLAB R2015a
```

Search Documentation

FILE

« MATLAB ▶ MATLAB Production Server ▶ R2015a ▶ bin ▶

```
>> C=B./A
```

```
C =
```

2	2	2	2	NaN	NaN
2	2	2	2	NaN	2
2	2	2	2	NaN	NaN

```
fx >>
```


2. ARRAYS:

```
>> E = [8 1 6 ; 3 5 7 ; 4 9 2]
```

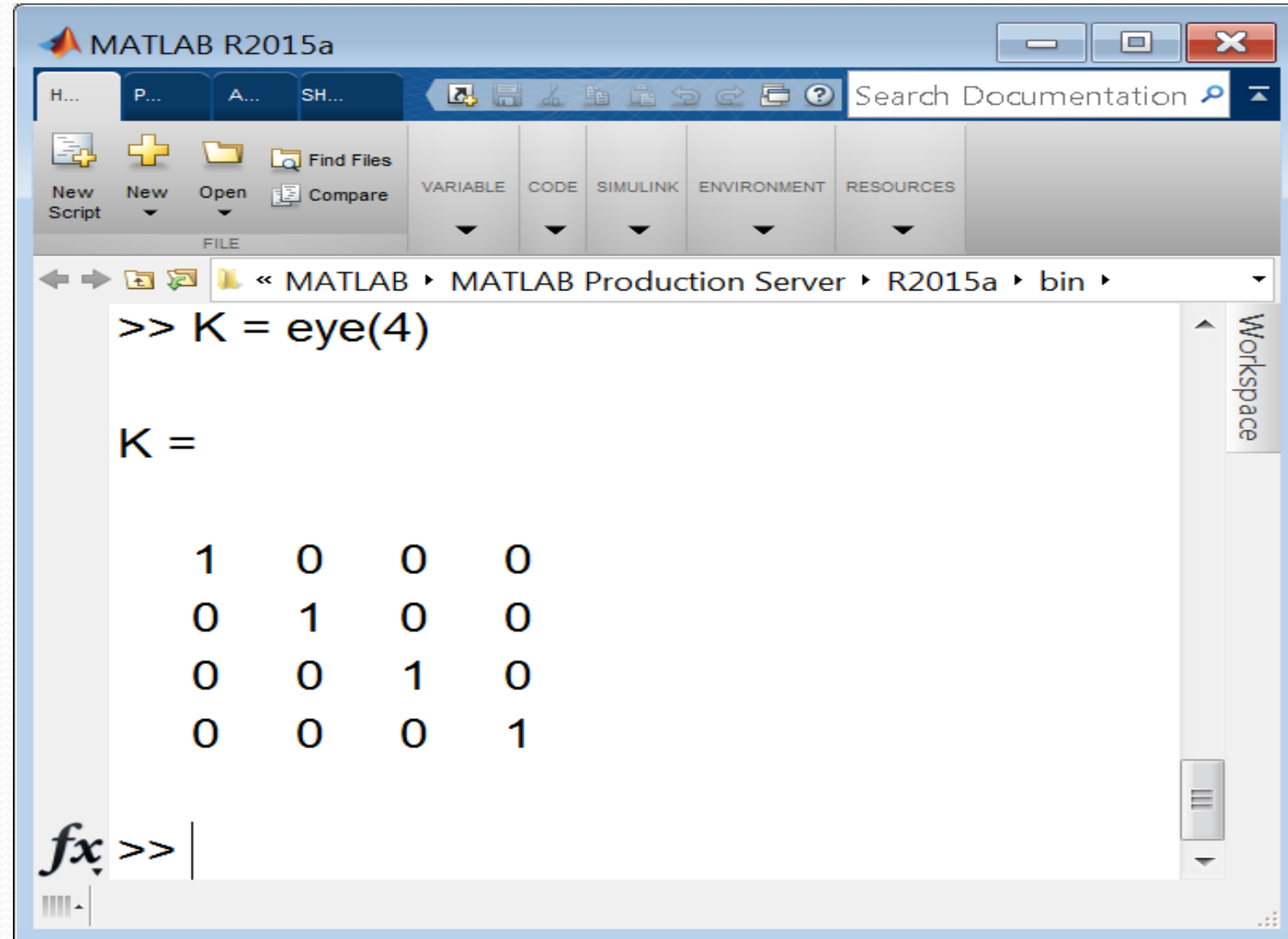
```
>> F = E'
```

```
>> G = inv(E)
```

```
>> H = zeros(3 , 2)
```

```
>> J = ones(3)
```

```
>> K = eye(4)
```



```
MATLAB R2015a
```

Search Documentation

FILE

« MATLAB ▶ MATLAB Production Server ▶ R2015a ▶ bin ▶

```
>> K = eye(4)
```

K =

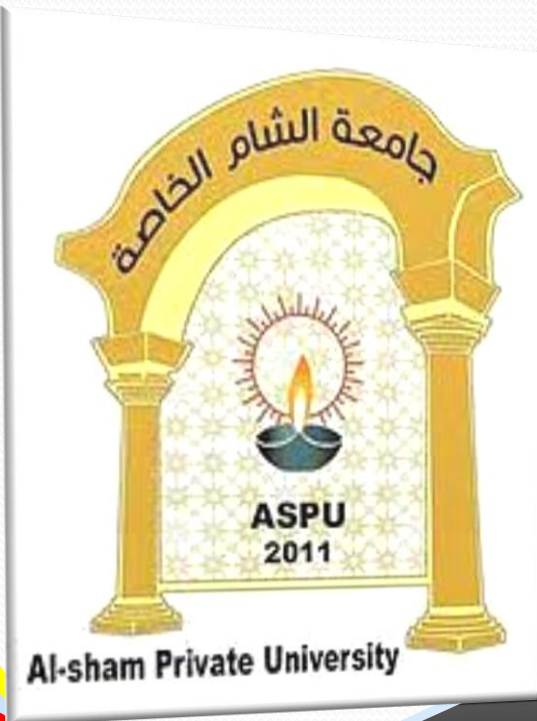
1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

Workspace

```
fx >> |
```

2. ARRAYS:

تنبيه الطلاب لأسئلة المذاكرة وخاصة جدول الماتلاب



THANK YOU

