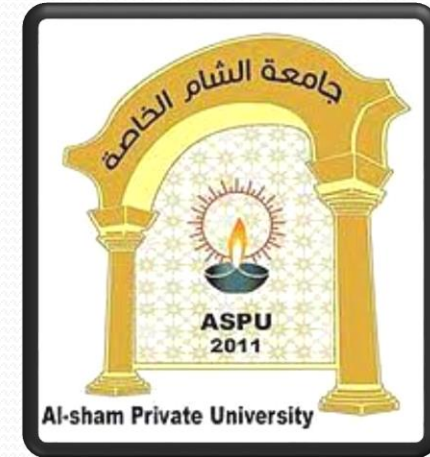
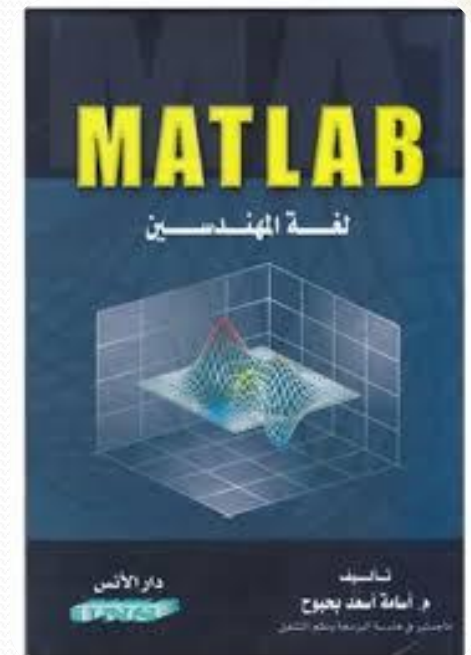


# Computer Skills

## Lecture 6



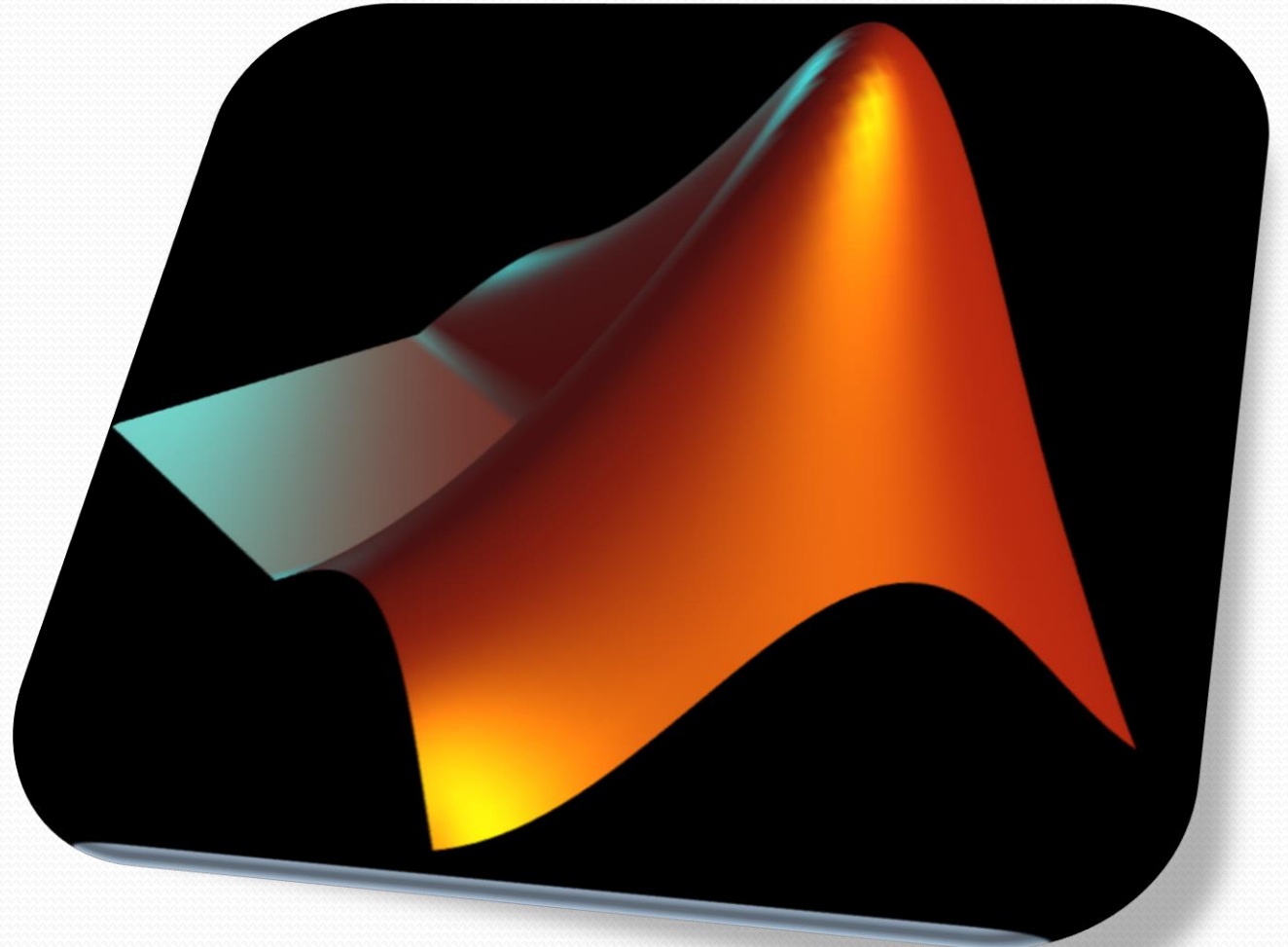
# MATLAB (1)



Ph.D. Eng. Ousama Bahbouh

# CONTENTS

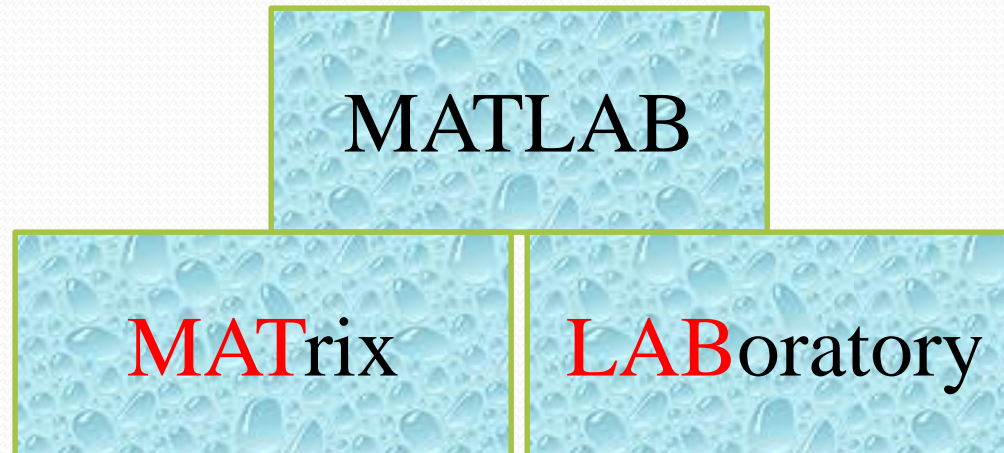
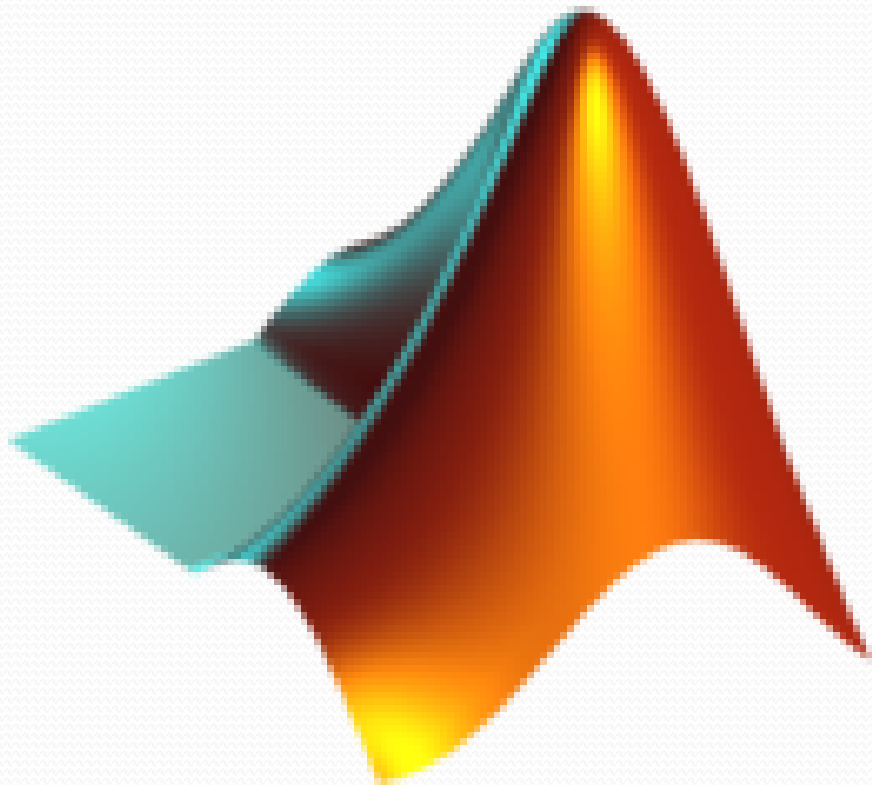
- 1. Definition**
- 2. Introduction**
- 3. Applications**
- 4. Examples**
- 5. Matlab Windows**
- 6. Matlab Variables**



# 1. DEFINITION:

## تعريف الماتلاب MATLAB:

هو بيئة برمجية تمكن المستخدم من كتابة البرامج الهندسية عالية المستوى وبإمكانيات متقدمة.



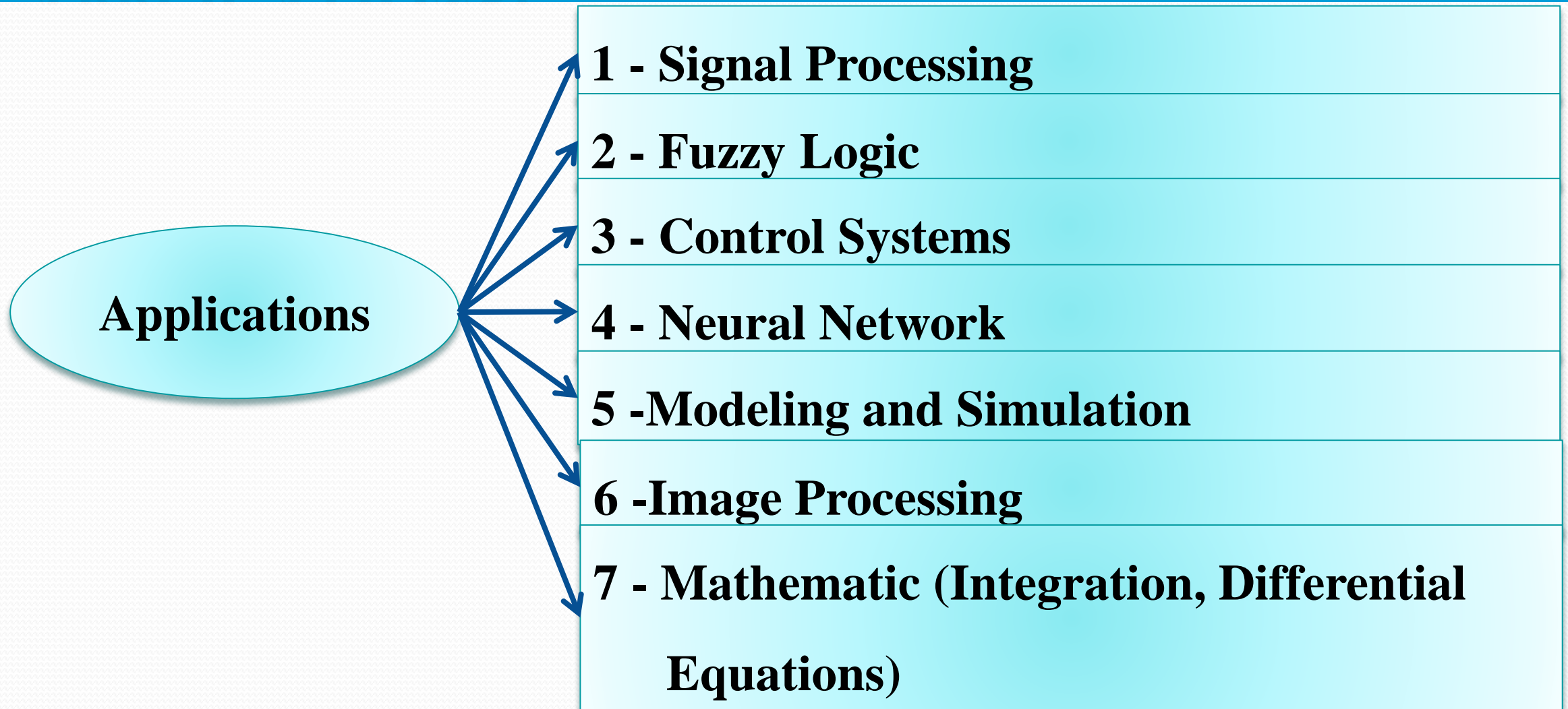
## 2. INTRODUCTION:

**:MathWorks**

هي الشركة المالكة لبرنامج الماتلاب وبرنامج السيمولنك.

المؤسسون: Jack Little, Cleve Moler and Steve Bangert

# 3. APPLICATIONS:





## 4. EXAMPLES:

**Examples**

```
graph LR; A([Examples]) --> B[1 - GUI, Sptool, Nntool]; A --> C[2 - Sound]; A --> D[3 - Bode, nyquist, root locus, step, impulse,...]; A --> E[4 - 2D, 3D, mesh Plot, Interpolation]; A --> F[5 - Magic]; A --> G[6 - Simulation (Aerospace Blockset)]; A --> H[7 - Travel Salesman Problem (TSP)];
```

**1 – GUI, Sptool, Nntool**

**2 - Sound**

**3 - Bode, nyquist, root locus, step, impulse,....**

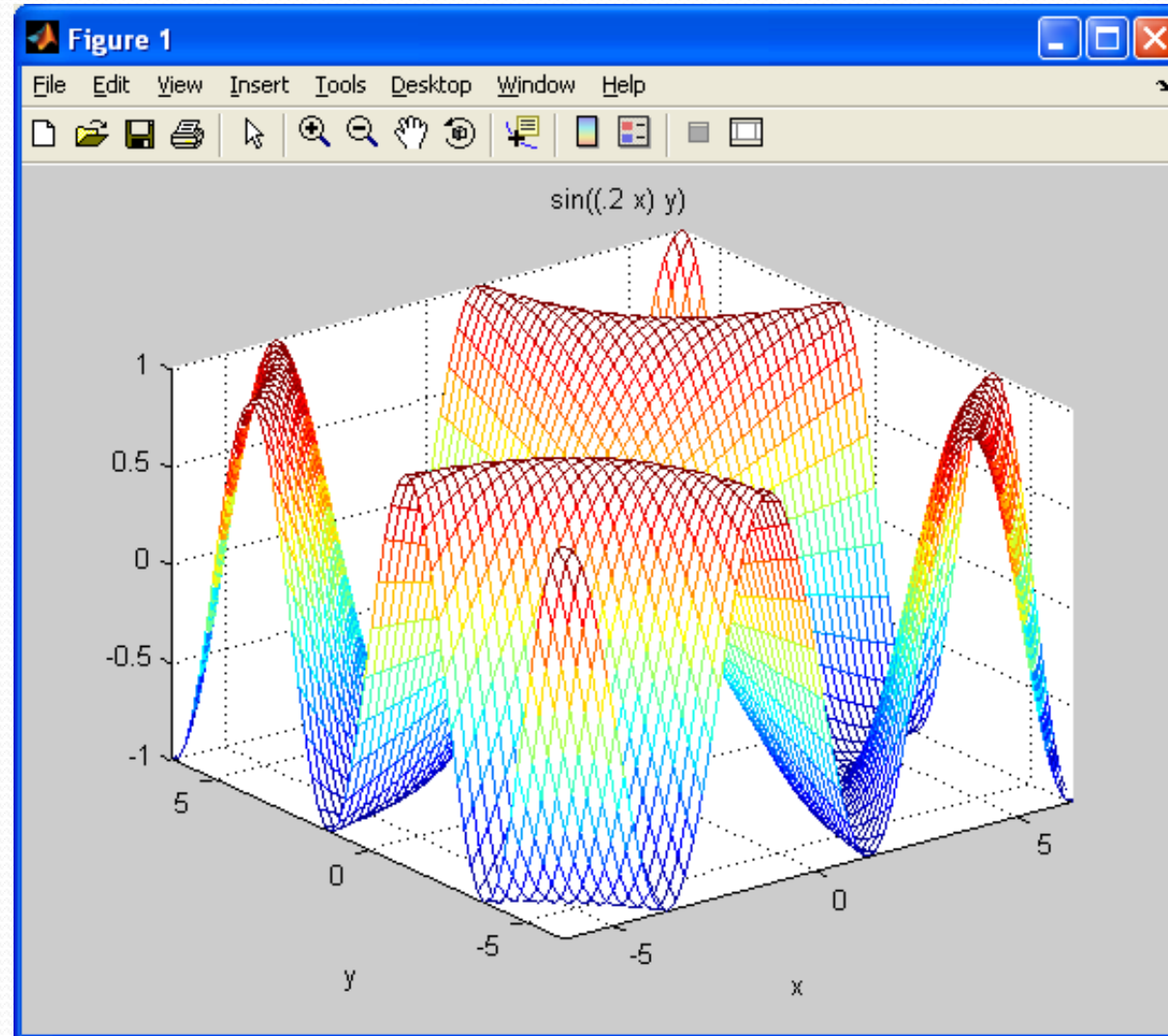
**4 - 2D, 3D, mesh Plot, Interpolation**

**5 - Magic**

**6 - Simulation (Aerospace Blockset )**

**7 - Travel Salesman Problem (TSP)**

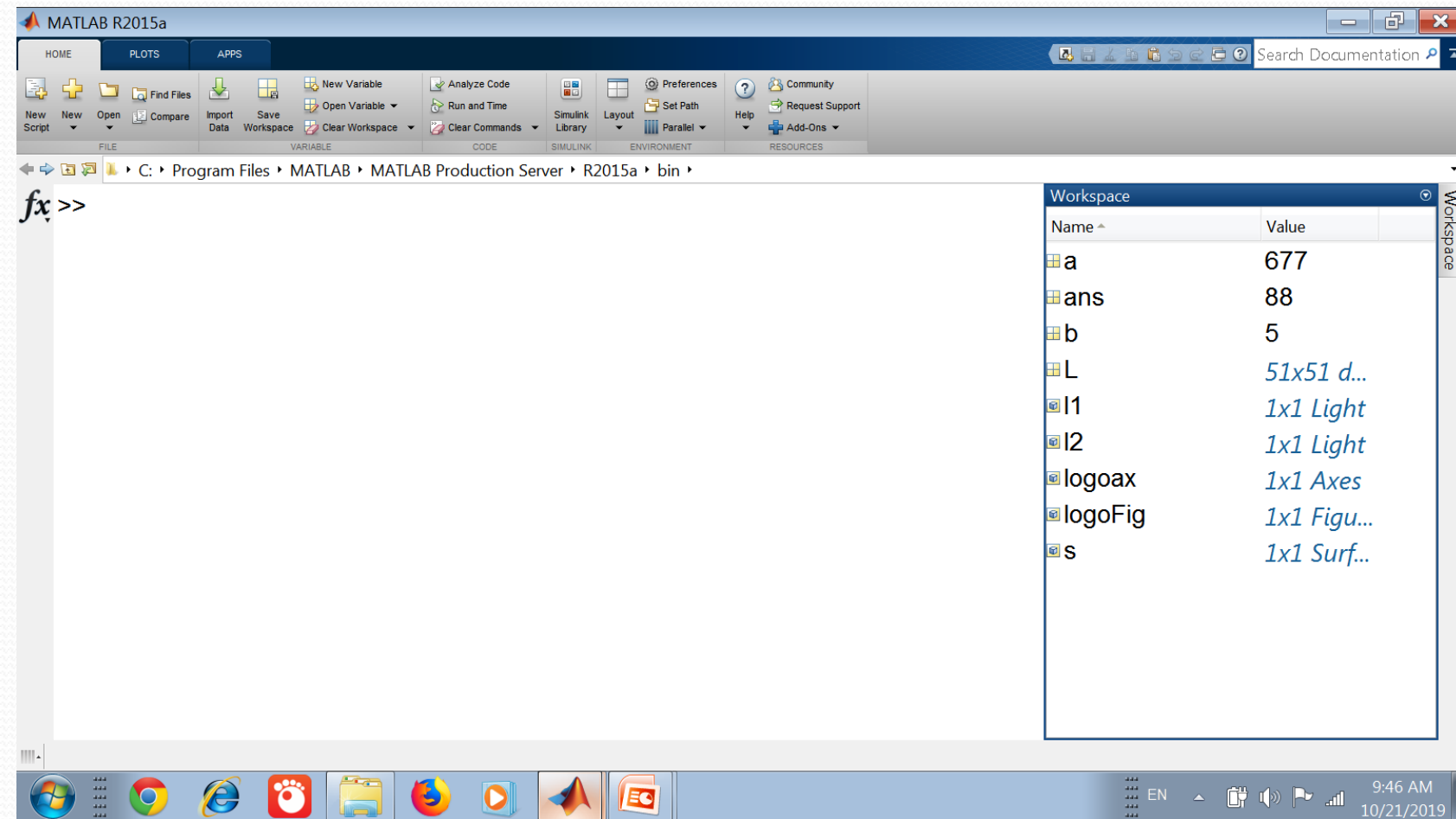
# 4. EXAMPLES:



# 5. MATLAB WINDOWS:

## نوافذ الماتلاب:

1. Menu
2. Command window
3. Workspace
4. Command history





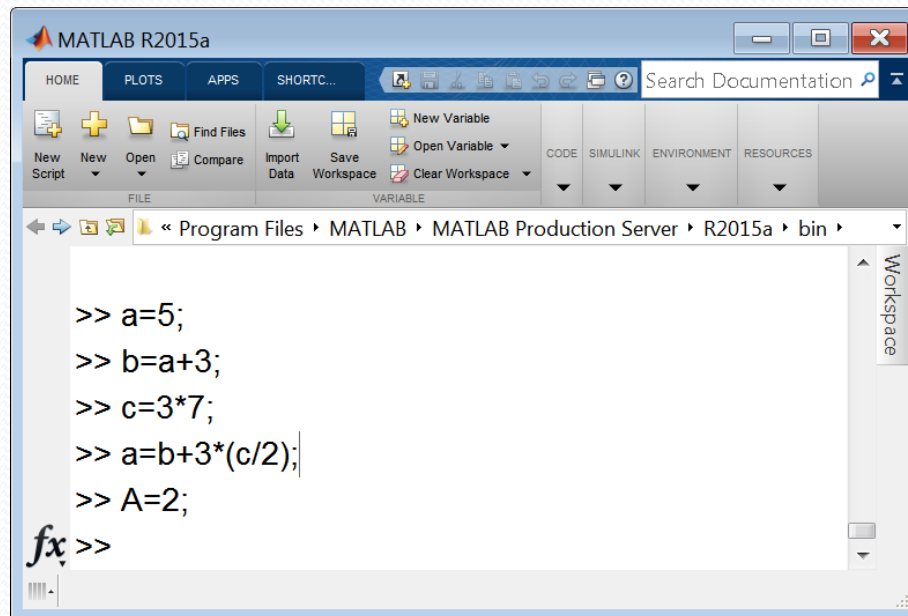
# 6. MATLAB VARIABLES:

## أنواع المتحولات

### 1 – متحولات مسبقة التعريف

### 2 – متحولات يعرفها المستخدم

1. pi
2. eps
3. realmax
4. realmin
5. ans



```
>> a=5;
>> b=a+3;
>> c=3*7;
>> a=b+3*(c/2);
>> A=2;
fx>>
```

1. a=5;
2. b=a+3;
3. c=3\*7;
4. a=b+3\*(c/2);
5. A=2;

# 6. MATLAB VARIABLES:

```
>> a = 9.5;
```

```
>> a = 9.5
```

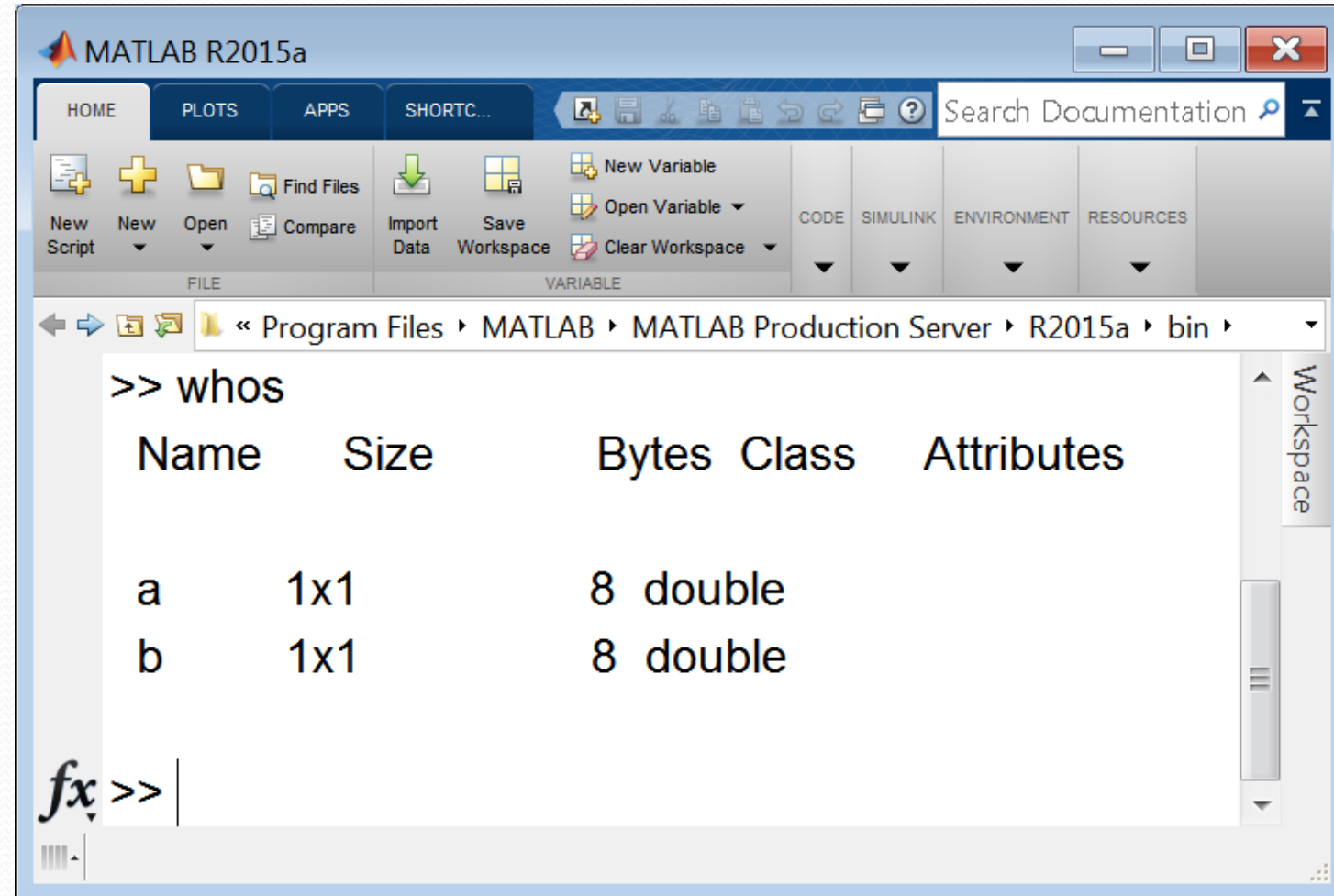
```
>> b = 4 / (a + 3) + 9 - a * 2;
```

```
>> b
```

```
>> clc
```

```
>> who
```

```
>> whos
```



The screenshot shows the MATLAB R2015a Command Window. The Command Window contains the following text:

```
>> whos
```

Name	Size	Bytes	Class	Attributes
a	1x1	8	double	
b	1x1	8	double	

The Command Window also shows a prompt `fx >> |` at the bottom left.

# 6. MATLAB VARIABLES:

>> clear a

>> who

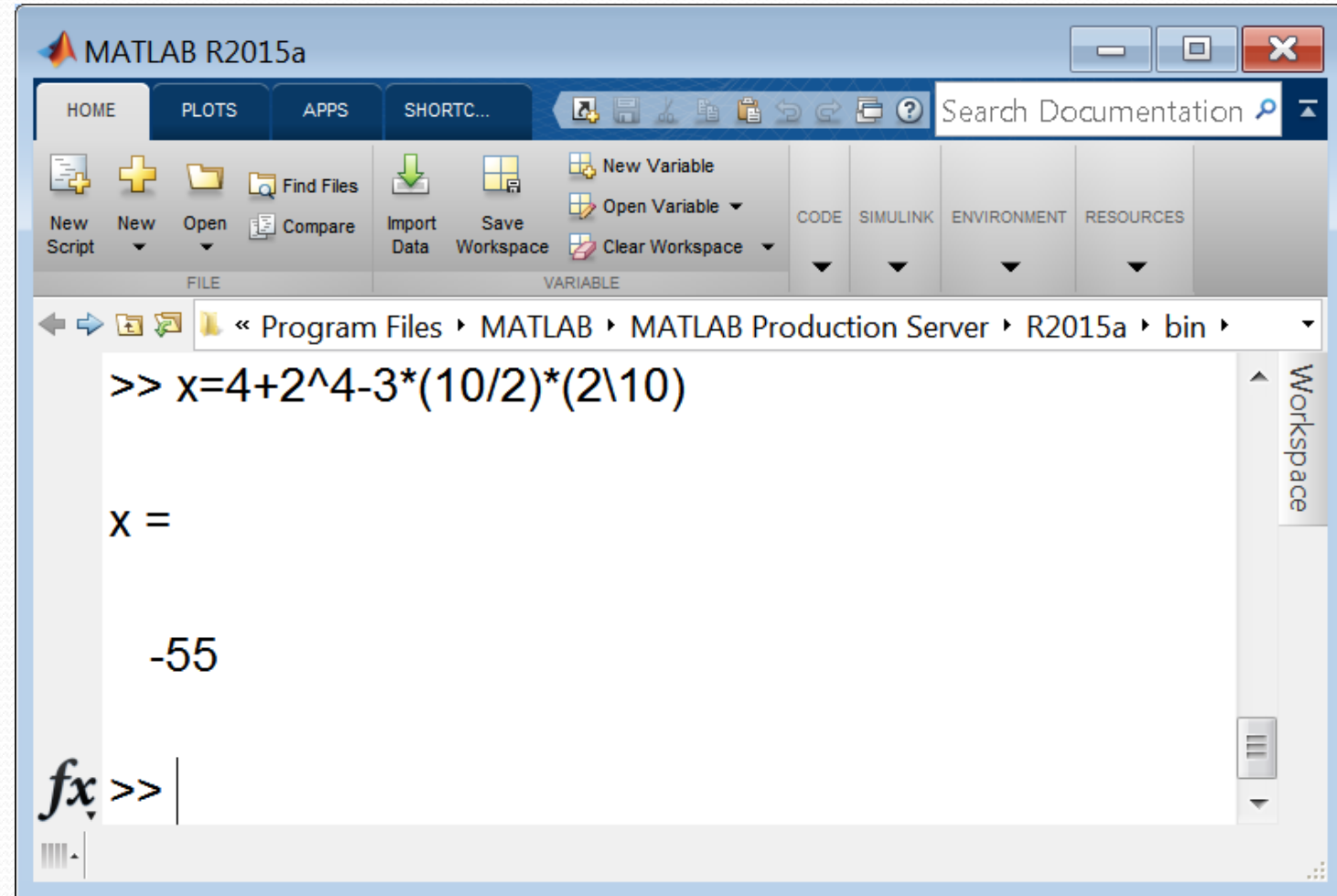
>> clear

>> who

>> 65

>> who

>> x = 4+2^4-3\*(10/2)\*(2\10)





THANK YOU

