

# Basics

## Table of Contents

Ex. 1: Write your first Matlab program.....	1
Ex. 2: The meaning of "a = b" .....	1
Ex. 3: Basic math operations .....	1
Ex. 4: Working with arrays.....	1
Ex. 5: Extracting an individual element of an array .....	1
Ex. 6: Comment.....	2
Ex. 8: Intrinsic math functions and constants.....	2
Ex. 9: Introduction to graphics.....	2
Ex. 10: Formatting output.....	3

### Ex. 1: Write your first Matlab program

```
% Add ; at the end of each line to suppress  
% the output
```

```
a = 3;  
b = 5;  
c = a + b
```

```
c = 8
```

### Ex. 2: The meaning of "a = b"

```
a = 3;  
b = a;  
b
```

```
b = 3
```

### Ex. 3: Basic math operations

```
a = 3;  
b = 9;  
c = (2 * a) + b^2 - (a * b) + ((b / a) - 10)
```

```
c = 53
```

### Ex. 4: Working with arrays

```
a = [3 6 7];  
b = [1 9 4];  
c = a + b
```

```
c = 1×3  
    4    15    11
```

### Ex. 5: Extracting an individual element of an array

```
a = [3 6 7];  
b = [1 9 4 5];  
c = a(2) + b(4)
```

```
c = 11
```

### **Ex. 6: Comment**

```
%  
% This program demonstrates how to "comment out"  
% a segment of code  
%  
A = 3;  
B = A * A;  
%  
% B = 2*B <--- This statement is not executed  
%  
C = A + B
```

```
C = 12
```

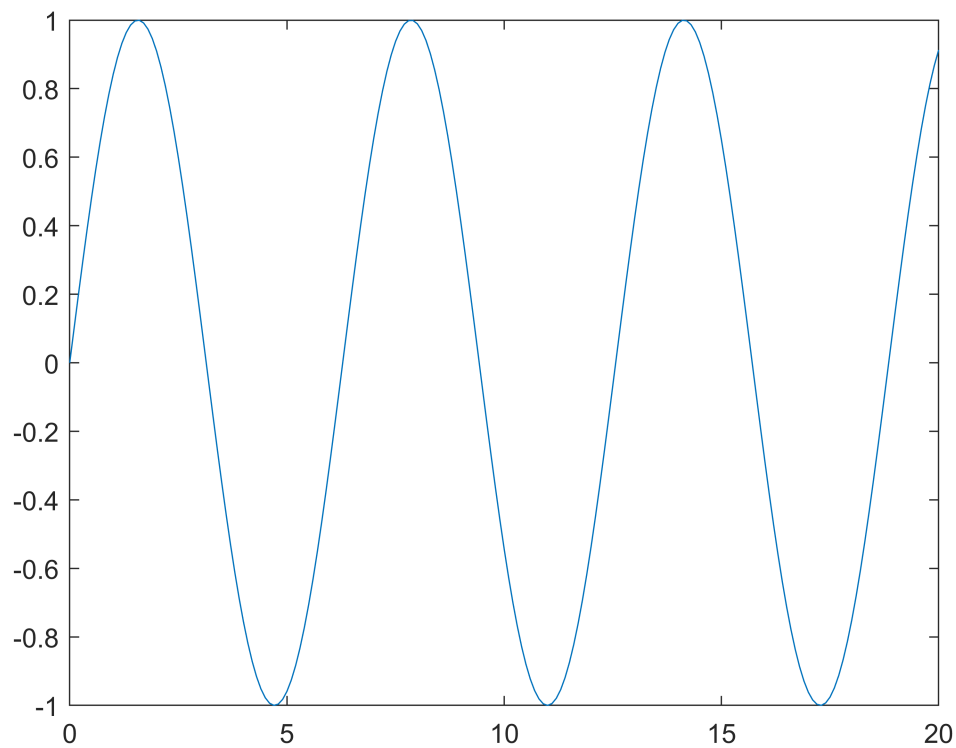
### **Ex. 8: Intrinsic math functions and constants**

```
x = pi;  
y = sin(pi / 2);  
z = exp(-sin(pi / 2))
```

```
z = 0.3679
```

### **Ex. 9: Introduction to graphics**

```
x = [0:0.1:20]; % start from 0, increment by 0.1 each iteration, stop at 20  
y = sin(x);  
plot(x,y);
```



### Ex. 10: Formatting output

```
a = 3;  
b = a * a;  
c = a * a * a;  
d = sqrt(a);  
  
fprintf('%4u square equals %4u \r', a, b);
```

3 square equals 9

```
fprintf('%4u cube equals %4u \r', a, c);
```

3 cube equals 27

```
fprintf('The square root of %2u is %6.4f \r', a, d);
```

The square root of 3 is 1.7321