

Chapter 2.

Matlab

To begin, **matlab**

to end, **quit**

```
>> A = [ 0 1; 2 3]
```

```
A =  0  1  
     2  3
```

```
>> B = [ 5 6; 7 8]
```

```
B =  5  6  
     7  8
```

```
>> size(A)
```

```
ans =  2  2
```

```
>> ndims(A)
```

```
ans =  2
```

```
>> disp(A)
```

```
  0  1  
  2  3
```

```
>> isempty(A)
```

```
ans =  0
```

```
>> isequal(A,B)
```

```
ans =  0
```

```
>> isnumeric(A)
```

```
ans =  1
```

```
>> logical(A)
```

```
0 1  
1 1
```

```
>> C = B(2,1)
```

```
C = 7
```

```
>> clear B
```

```
>> B
```

```
??? undefined function or variable 'B'
```

```
>> B = [0 : 0.2 : 1]
```

```
B = 0 0.2000 0.4000 0.6000 0.8000 1.0000
```

```
>> 1 : 10
```

```
ans = 1 2 3 4 5 6 7 8 9 10
```

```
>> A = eye(3)
```

```
A = 1 0 0  
0 1 0  
0 0 1
```

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

```
A = 1 0 0  
0 1 0
```

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

```
A = 0 0 0  
0 0 0
```

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

```
A = 1 1  
1 1  
1 1
```

```
>> rand(5)                                ans = 0.4387 0.7655 0.1869 0.4456 0.7095
                                           {uniform random number between 0 and 1}
```

```
>> randn(1,5)                              ans = -0.4326 -1.6656 0.1253 0.2877 -1.1465
                                           {normal distribution with mean = 0 and s.d = 1}
```

```
>> randn(1,5)                              ans = 1.1909 1.1892 -0.0376 0.3273 0.1746
```

Basic operations: + - * / ^ (power)

```
>> A = [1 2; 3 4]
```

```
>> B = [5 6; 7 8]
```

```
>> C = A * B                                C =    19    22
                                           43    50
```

```
>> D = A .* B                              D =     5    12
                                           21    32
```

Functions

```
>> sin(A) // radian //                    ans = 0.8415 0.9093
:                                           0.1411 -0.7568
```

Constants

```
>> pi                                       ans = 3.1416
```

```
>> eps                                     ans = 2.2204e-16 // precision
```

```
>> realmin                                 ans = 2.2251e-308
```

```
>> realmax                                 ans = 1.7977e+308
```