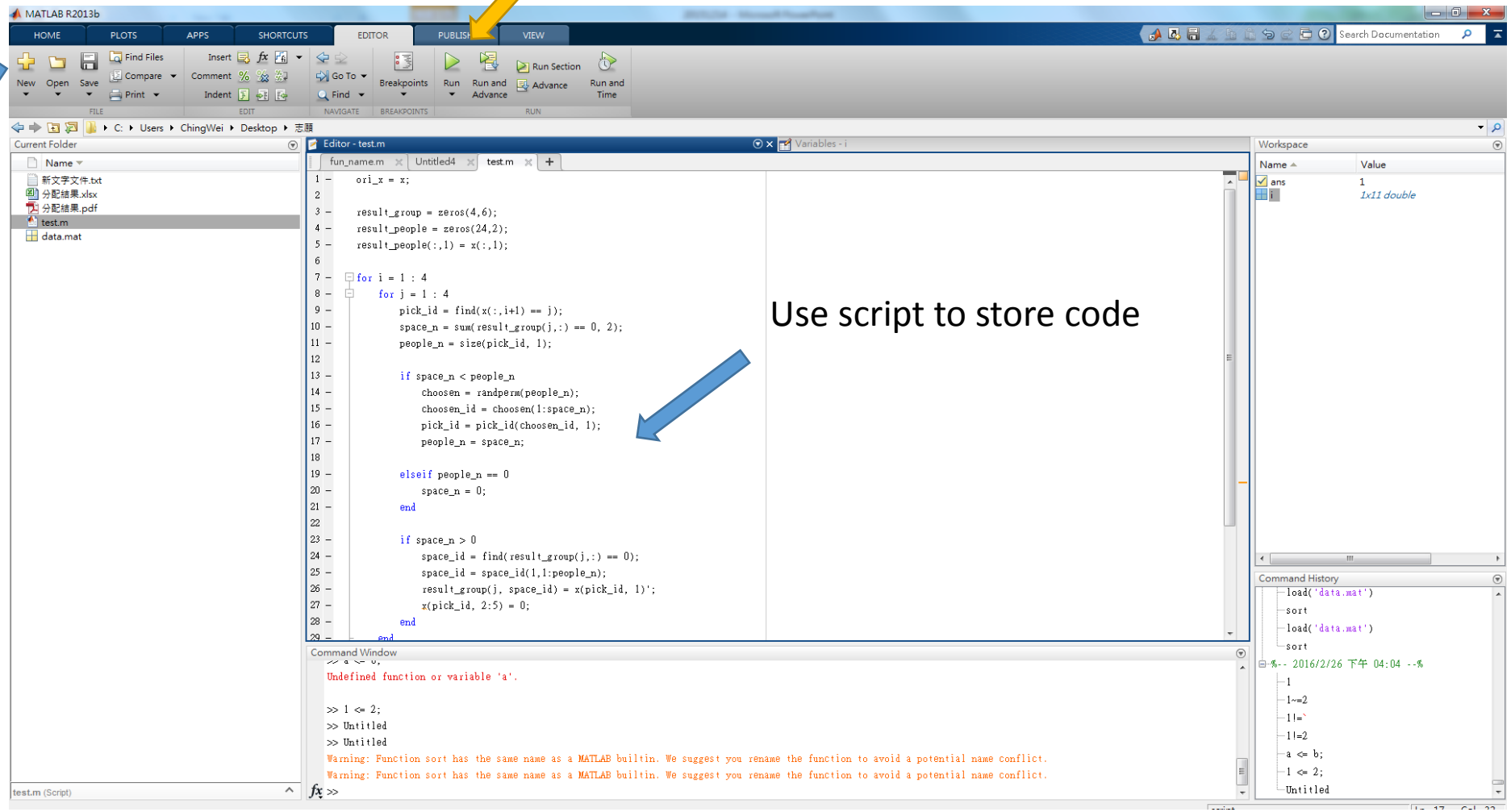
Matlab Tutorial

- Script
- Basic
- Control
- Matrix
- Function

Script

Run script code

New script



Script

Left clip to
add break point

Editor - test.m

Variables - i

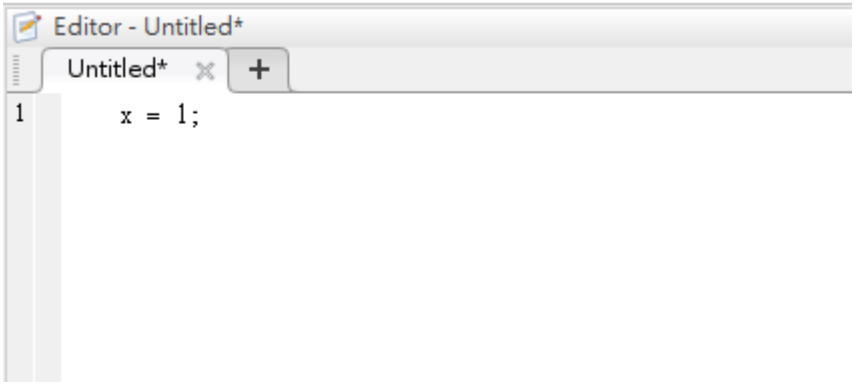
fun_name.m | Untitled4 | test.m

```
1  ori_x = x;
2
3  result_group = zeros(4,6);
4  result_people = zeros(24,2);
5  result_people(:,1) = x(:,1);
6
7  for i = 1 : 4
8      for j = 1 : 4
9          pick_id = find(x(:,i+1) == j);
10         space_n = sum(result_group(j,:) == 0, 2);
11         people_n = size(pick_id, 1);
12
13         if space_n < people_n
14             choosen = randperm(people_n);
15             choosen_id = choosen(1:space_n);
16             pick_id = pick_id(choosen_id, 1);
17             people_n = space_n;
18
19         elseif people_n == 0
20             space_n = 0;
21         end
22
23         if space_n > 0
24             space_id = find(result_group(j,:) == 0);
25             space_id = space_id(1,1:people_n);
26             result_group(j, space_id) = x(pick_id, 1)';
27             x(pick_id, 2:5) = 0;
28         end
29     end
```

Command Window

Basic

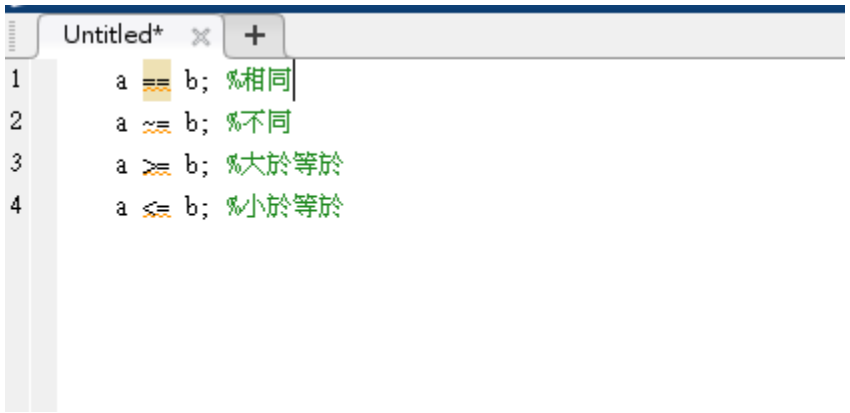
- Variable Declaration



- With ‘;’ at end. Value won’t shown on command window

Basic

- Binary Operation



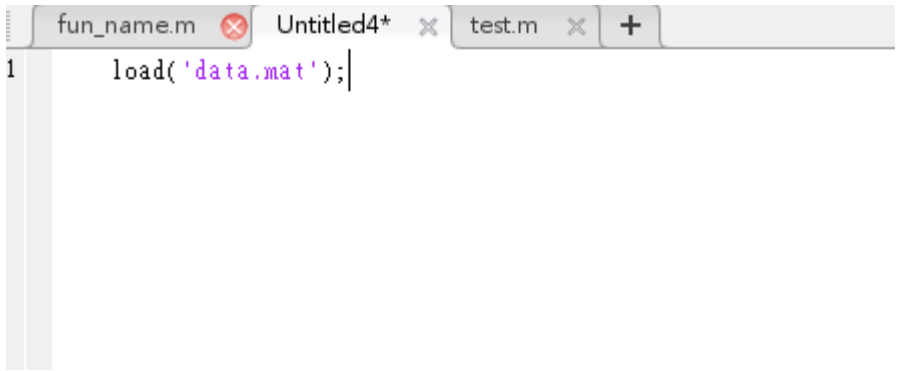
Basic

- Math Operation

a ^ b => a^b

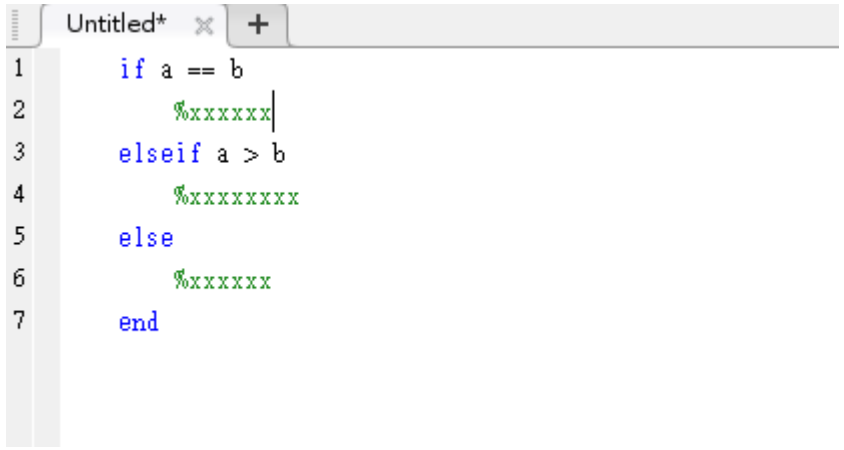
Basic

- Load data



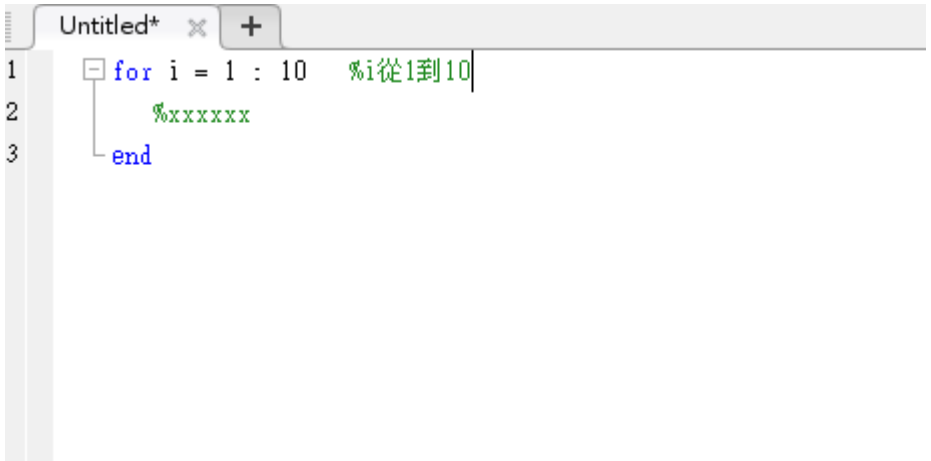
Control

- If-else



Control

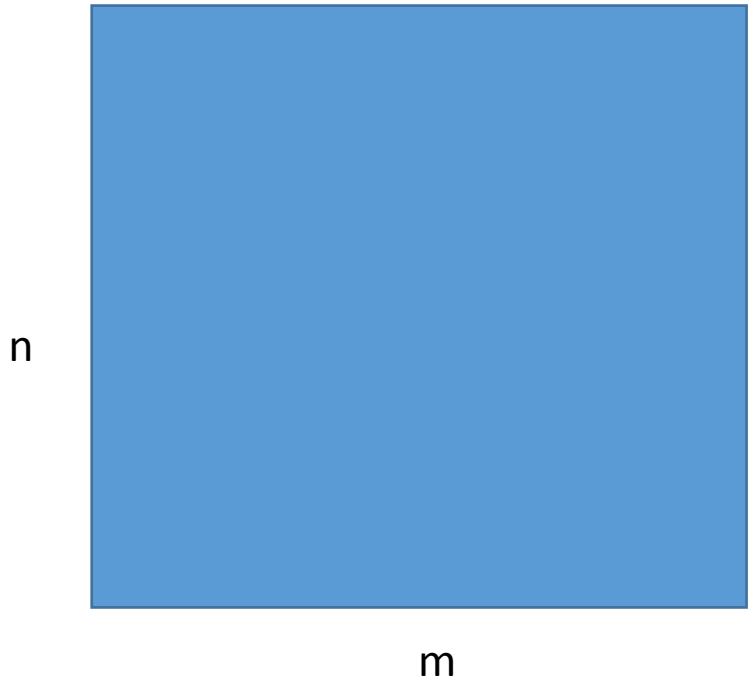
- For loop



Matrix

- Declare zero matrix

```
Untitled*
1   x = zeros(n,m);
2
```



Matrix

- Declare continuous value vector

Untitled.m

```
1 –     i = 0 : 0.1 : 1;% i = start value : difference value : end value
```

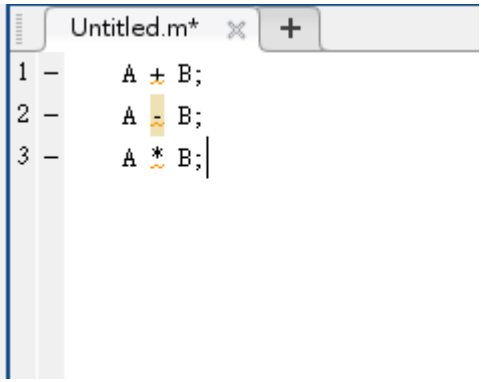
i

1x11 double

	1	2	3	4	5	6	7	8	9	10	11	12
1	0	0.1000	0.2000	0.3000	0.4000	0.5000	0.6000	0.7000	0.8000	0.9000	1	
2												
3												
4												

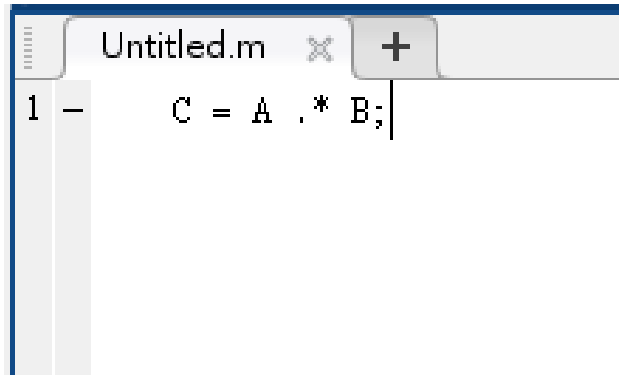
Matrix

- Math Operation



Matrix

- Dot Product(Element by Element Product)



a1	a2
a3	a4

.*

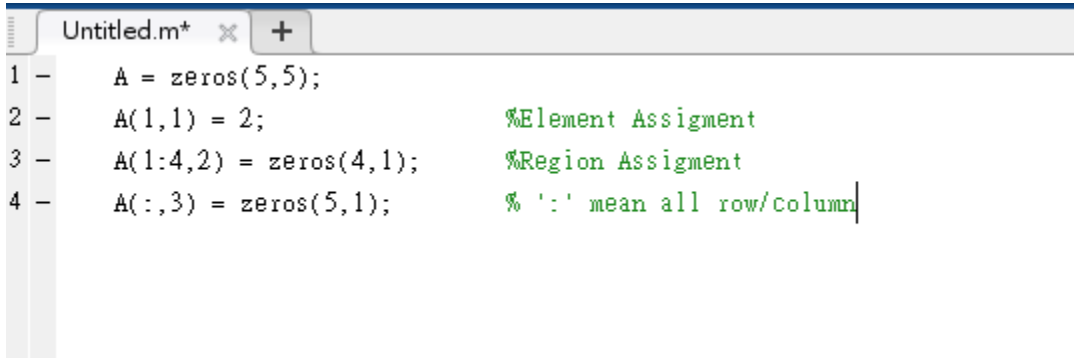
b1	b2
b3	b4

=

a1*b1	a2*b2
a3*b3	a4*b4

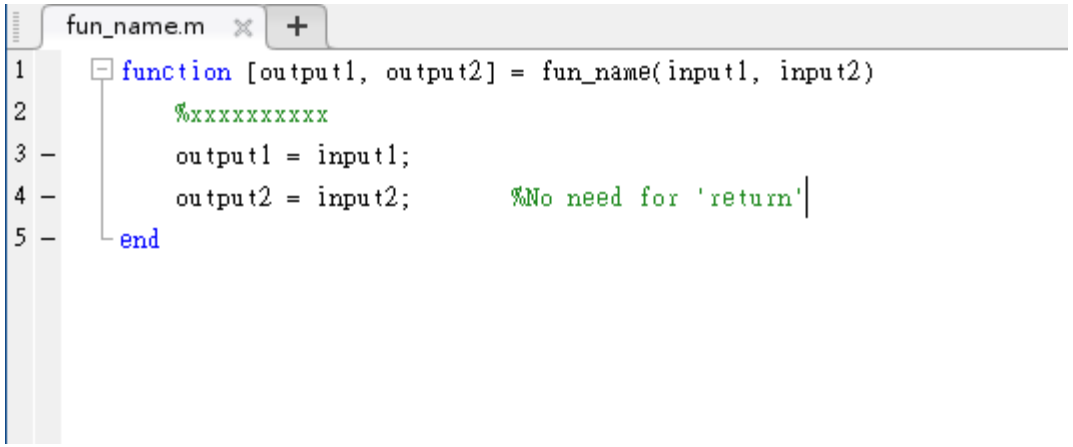
Matrix

- Value Assignment



Function

- Function Declaration



- Note. Filename should be same as function name
- Different from c, matlab can return multi output. Just assign value to output valuable.

Function

- Catch result