# 2021160055 최성원

제 1장 연산자

■ 기본 연산자

```
>> 1 + 3

ans =

     4

>> 13 - 4

ans =

     9

>> 12 * 3

ans =

    36

>> 36 / 3

ans =

    12
```

■ 관계 연산자

```
>> x = [1 2 3 4 5]; y = [5 4 3 2 1];
>> x < y

ans =

  1×5 logical 배열

   1   1   0   0   0

>> x <= y

ans =

  1×5 logical 배열

   1   1   1   0   0

>> x == y

ans =

  1×5 logical 배열

   0   0   1   0   0

>> x >= y

ans =

  1×5 logical 배열

   0   0   1   1   1

>> x > y

ans =

  1×5 logical 배열

   0   0   0   1   1
```

■ for 문

```
>> for x = 0:2:10
a=2^x
end

a =

     1


a =

     4


a =

    16


a =

    64


a =

   256


a =

        1024
```

■ if else 문

```
>> a = 3;
>> if a < 1
b = a + 1
else
c = a + 2
end

c =

     5
```

■ while 문

```
>> a = 1;
>> while a < 4
a = a + 1
end

a =

     2


a =

     3


a =

     4
```

■ 세미콜론

```
>> a = 1; b = 2; c = 3;
>> b = 2

b =

     2
```

■ 명령문 연속

```
>> plot(x, y, '--rs', 'LineWidth', 2, 'MarkerEdgeColor', 'k', ...
'MarkerSize', 10)
'x'은(는) 인식할 수 없는 함수 또는 변수입니다.
```

■ inline

```
>> f = inline('x^3+6*x-2', 'x');
>> f(3)

ans =

    43
```

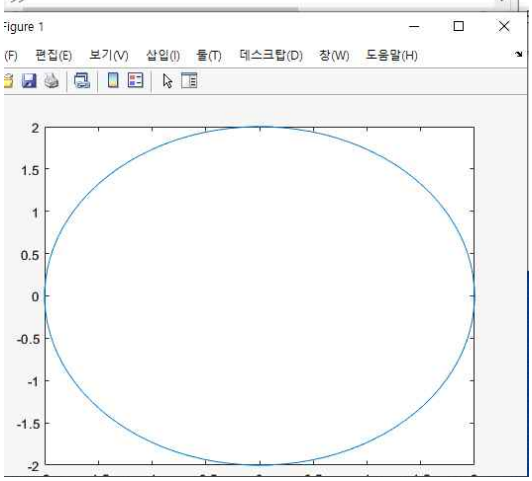
```
>> f = inline('x.^3+6*x-2', 'x');
>> f([3 4 5])

ans =

    43    86   153
```

## ■ linspace

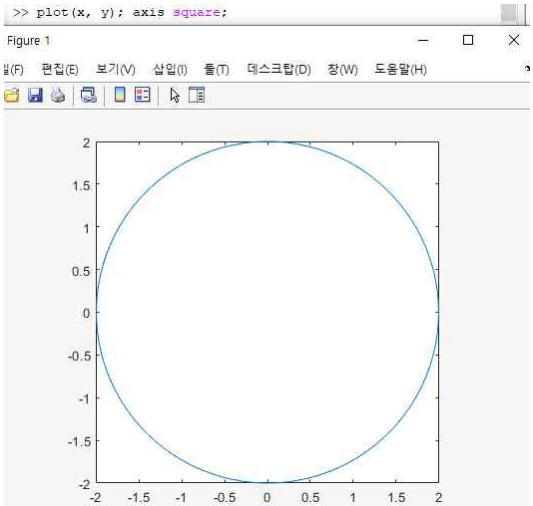
```
>> x = linspace(0, 5, 6)

x =

     0     1     2     3     4     5
```

## ■ plot

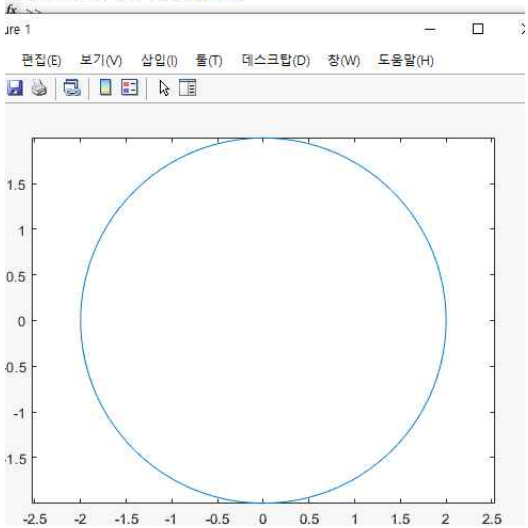
```
>> t = linspace(0, 2*pi, 100); x=2*cos(t); y = 2*sin(t);
>> plot(x, y);
>>
```



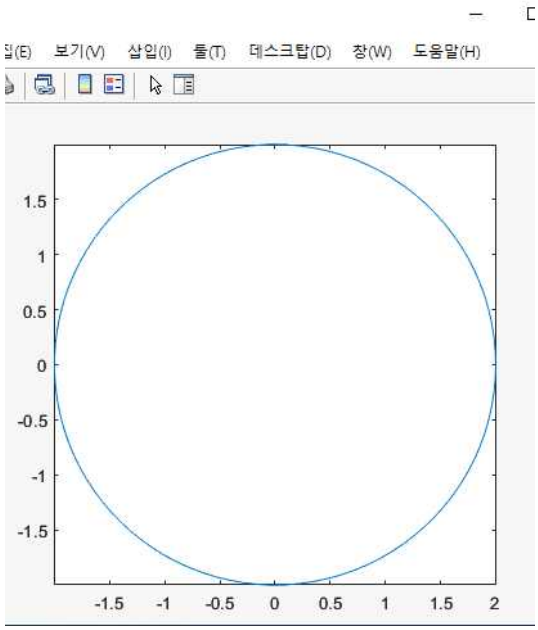

```
>> plot(x, y); axis square;
```




```
>> plot(x, y); axis equal;
```




```
>> plot(x, y); axis image;
```



■ ones, zeroes

```
>> ones(3)

ans =

     1     1     1
     1     1     1
     1     1     1

>> zeros(2)

ans =

     0     0
     0     0
```

■ length, sum, abs

```
>> C = [1, 2, 3]; length(C)

ans =

     3

>> A = [1 2 3; 4 5 6; 7 8 9];
>> sum(A)

ans =

    12    15    18

>> abs(-3)

ans =

     3
```

■ fprintf, load

```
>> fp = fopen('test.m', 'w');
>> fprintf(fp, '%d %d\n', 1, 2);
>> fprintf(fp, '%f %f\n', 3.5, 4.5);
>> fprintf(fp, '%e %e\n', 100, 1000);
>> fclose(fp);
>> a = load('test.m')

a =

   1.0e+03 *

    0.0010    0.0020
    0.0035    0.0045
    0.1000    1.0000
```

■ rand

```
>> Random_matrix = rand(2, 3)

Random_matrix =

    0.8147    0.1270    0.6324
    0.9058    0.9134    0.0975

>> rand('seed', 3)
>> rand(2, 3)

ans =

    0.5387    0.0512    0.3010
    0.3815    0.2851    0.1277

>> rand(2, 3)

ans =

    0.3479    0.1078    0.5765
    0.2343    0.1009    0.4141

>> rand('seed', 3)
>> rand(2, 3)

ans =

    0.5387    0.0512    0.3010
    0.3815    0.2851    0.1277
```