

Assignment 1

Student Name : Hyeboim Kim

Student Number : 2017160001

기본 연산자

```
1 + 3
```

```
ans = 4
```

```
13 - 4
```

```
ans = 9
```

```
12 * 3
```

```
ans = 36
```

```
36 / 3
```

```
ans = 12
```

관계연산자

```
x = [1, 2, 3, 4, 5]
```

```
x = 1x5  
    1    2    3    4    5
```

```
y = [5, 4, 3, 2, 1]
```

```
y = 1x5  
    5    4    3    2    1
```

```
x < y
```

```
ans = 1x5 logical  
    1    1    0    0    0
```

```
x <= y
```

```
ans = 1x5 logical  
    1    1    1    0    0
```

```
x == y
```

```
ans = 1x5 logical  
    0    0    1    0    0
```

```
x > y
```

```
ans = 1x5 logical
```

```
0 0 0 1 1
```

```
x >= y
```

```
ans = 1x5 logical  
0 0 1 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 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 = 9; b = 1, c = 1;
```

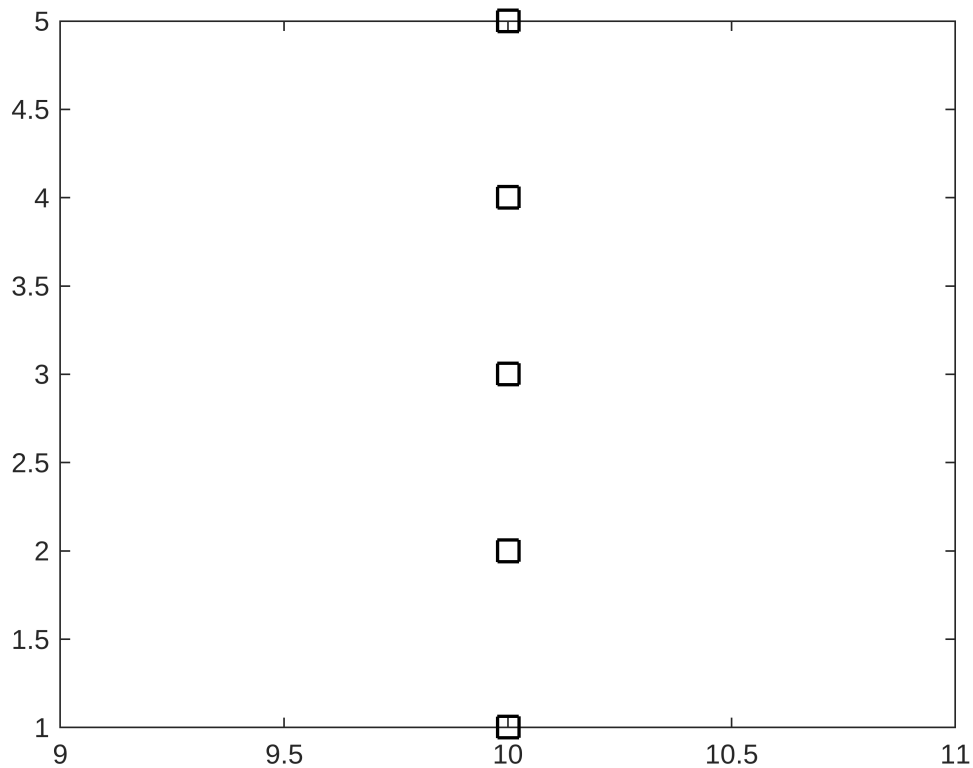
```
b = 1
```

```
b = 10
```

```
b = 10
```

명령문 연속

```
plot(x, y, '--rs', 'LineWidth', 2, 'MarkerEdgeColor', 'k', ...  
      'MarkerSize', 10)
```



Inline 함수 정의

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

```
f =
```

인라인 함수:

$$f(x) = x^3 + 6 * x - 2$$

```
f(3)
```

```
ans = 43
```

Inline 함수 Vector Form

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

f =

인라인 함수:

$f(x) = x.^3 + 6 * x - 2$

```
f([ 3 4 5])
```

ans = 1×3

43 86 153

Linspace (Vector Formation)

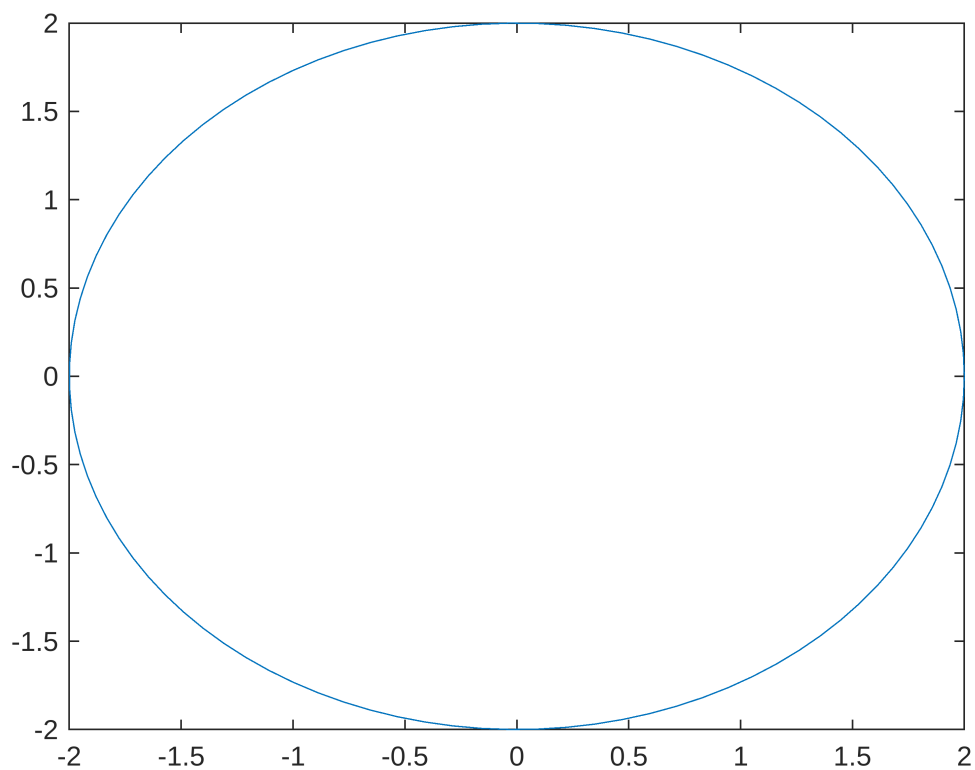
```
x = linspace(0, 5, 6)
```

x = 1×6

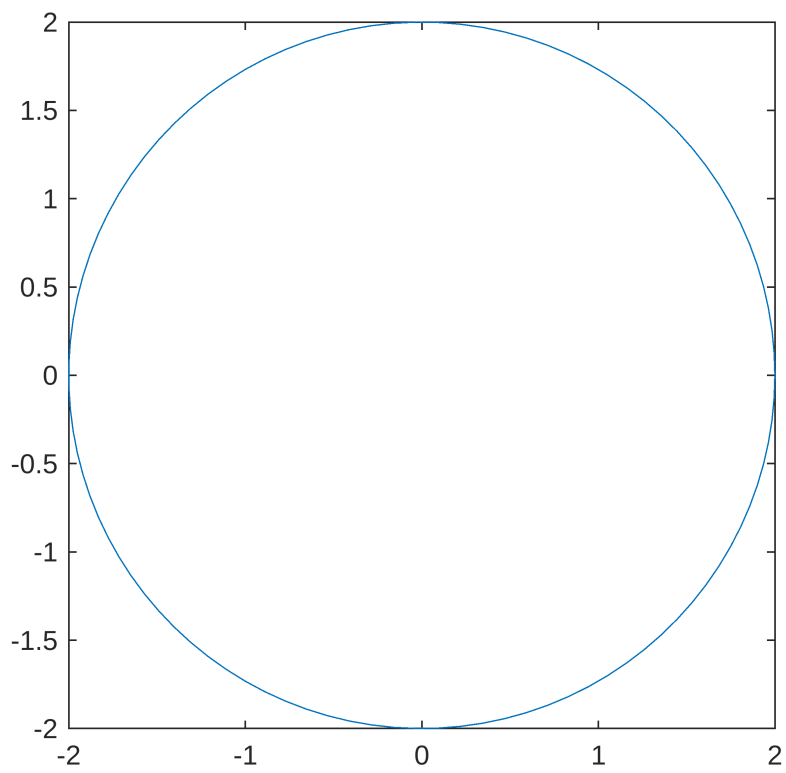
0 1 2 3 4 5

Plot

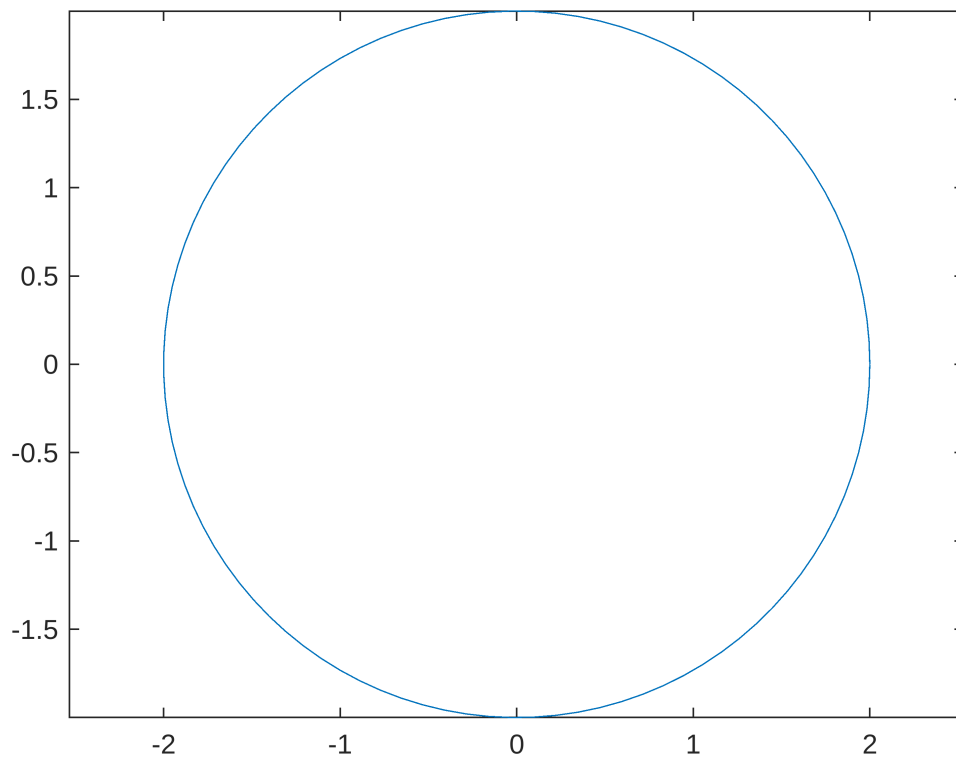
```
t = linspace(0, 2*pi, 100);  
x = 2 * cos(t);  
y = 2 * sin(t);  
plot(x,y);
```



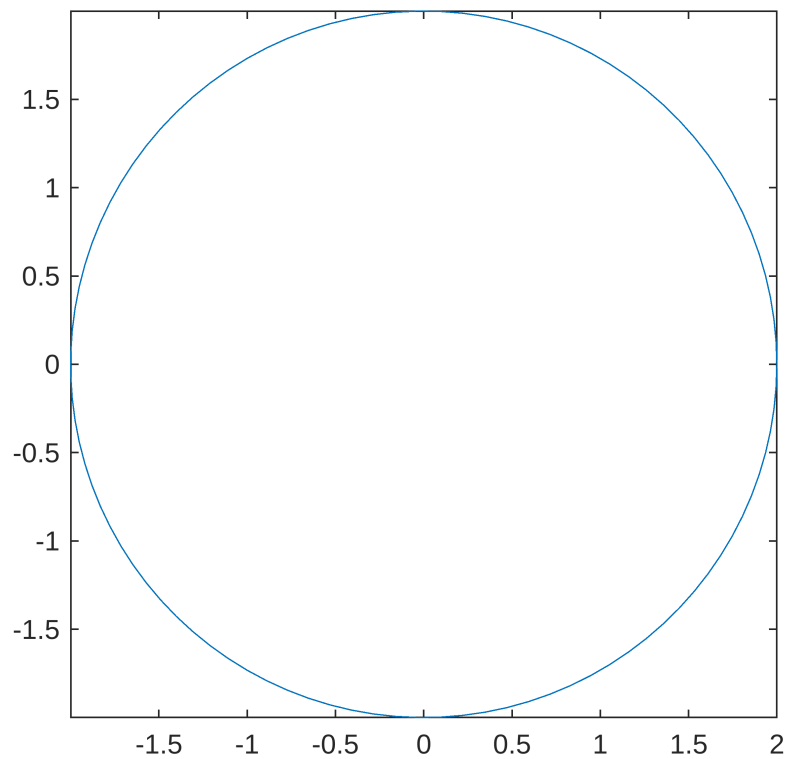
```
plot(x,y); axis square;
```



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



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



Ones(n): (nxn Square Matrix with 1)

```
ones(3)
```

```
ans = 3x3
     1     1     1
     1     1     1
     1     1     1
```

Zeros(n): (nxn Square Matrix with 0)

```
zeros(2)
```

```
ans = 2x2
     0     0
     0     0
```

Length of Vector

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

```
ans = 3
```

Sum

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

```
ans = 1×3  
    12    15    18
```

Abs

```
abs(-3)
```

```
ans = 3
```

fprintf

```
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)
```

```
ans = 0
```

load

```
a = load('test.m');  
a
```

```
a = 3×2  
103 ×  
    0.0010    0.0020  
    0.0035    0.0045  
    0.1000    1.0000
```

Rand() function (0,1)

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

```
Random_matrix = 2×3  
    0.5387    0.0512    0.3010  
    0.3815    0.2851    0.1277
```

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

```
ans = 2×3
```

0.5387	0.0512	0.3010
0.3815	0.2851	0.1277