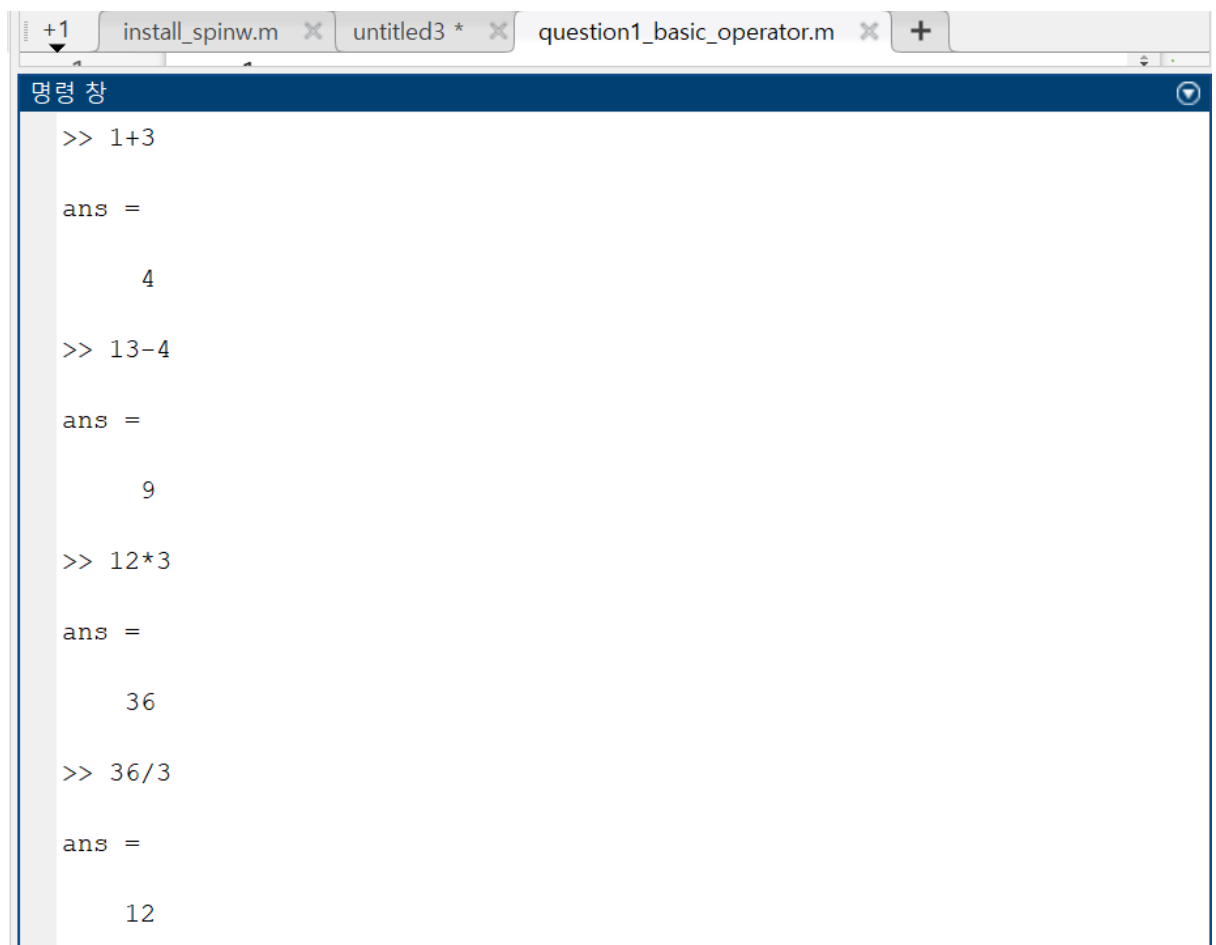


제1장

제1절 연산자

1. 기본 연산자



A screenshot of a MATLAB command window titled 'question1_basic_operator.m'. The window shows four arithmetic operations performed in the command prompt. Each operation is followed by the prompt 'ans =' and the result. The operations are: 1+3 (result 4), 13-4 (result 9), 12*3 (result 36), and 36/3 (result 12).

```
>> 1+3  
  
ans =  
  
      4  
  
>> 13-4  
  
ans =  
  
      9  
  
>> 12*3  
  
ans =  
  
     36  
  
>> 36/3  
  
ans =  
  
     12
```

2. 관계 연산자

```
+1 | install_spinw.m | untitled3 * | question1_basic_operator.m | +
명령 창
>> 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
```

3. 논리연산자

```
>> a=5;  
>> b=20;  
>> if ( a && b )  
disp( 1 );  
end  
1
```

```
>> a=5;  
>> b=20;  
>> if ( a | b )  
disp( 1 );  
end  
1
```

```
>> a=1;  
>> b=0;  
>> if ( a | b )  
disp( 1 );  
end  
1
```

제2절 기본 구문

1. for 문

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

a =

     1

a =

     4

a =

    16

a =

    64

a =

   256

a =

  1024
```

2. if else 문

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

```
c =
```

```
5
```

3. while 문

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

```
a =
```

```
2
```

```
a =
```

```
3
```

```
a =
```

```
4
```

4. clear, clc, clf

세미콜론

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

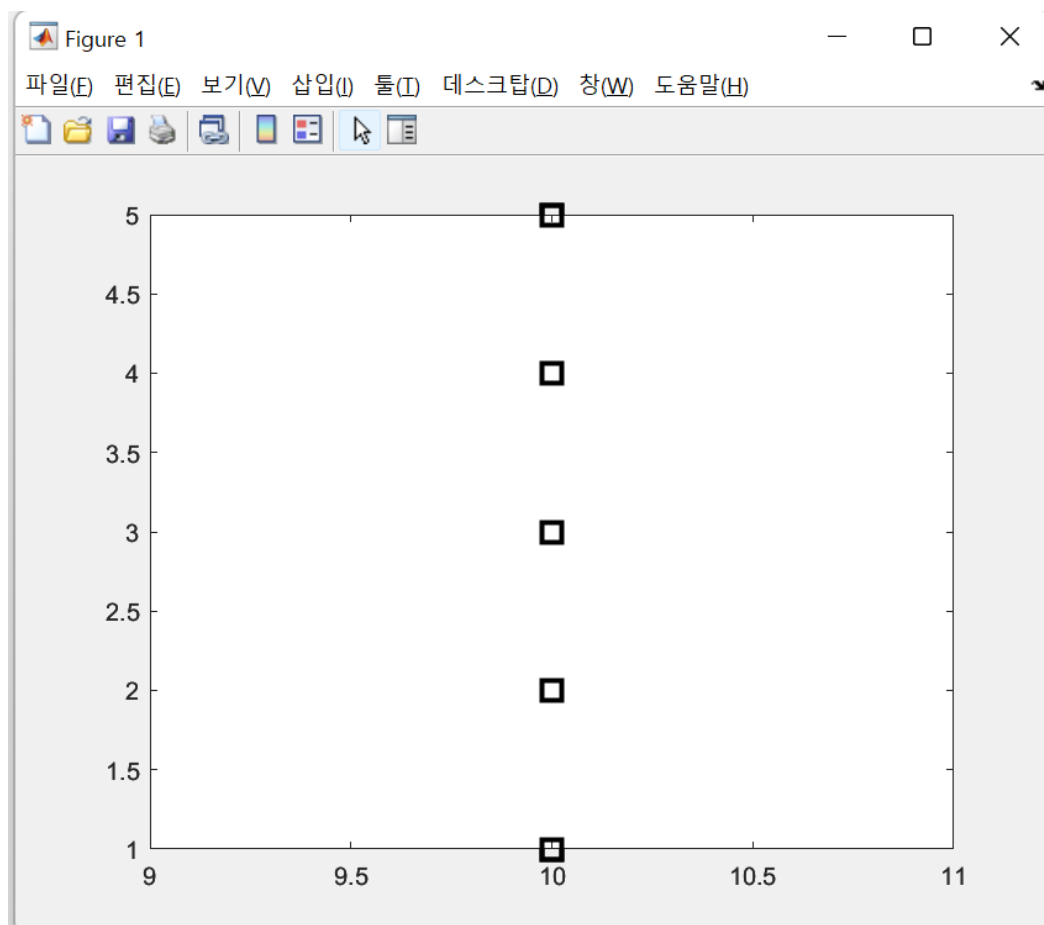
```
b =
```

```
2
```

명령문 연속

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

```
fx>> |
```



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

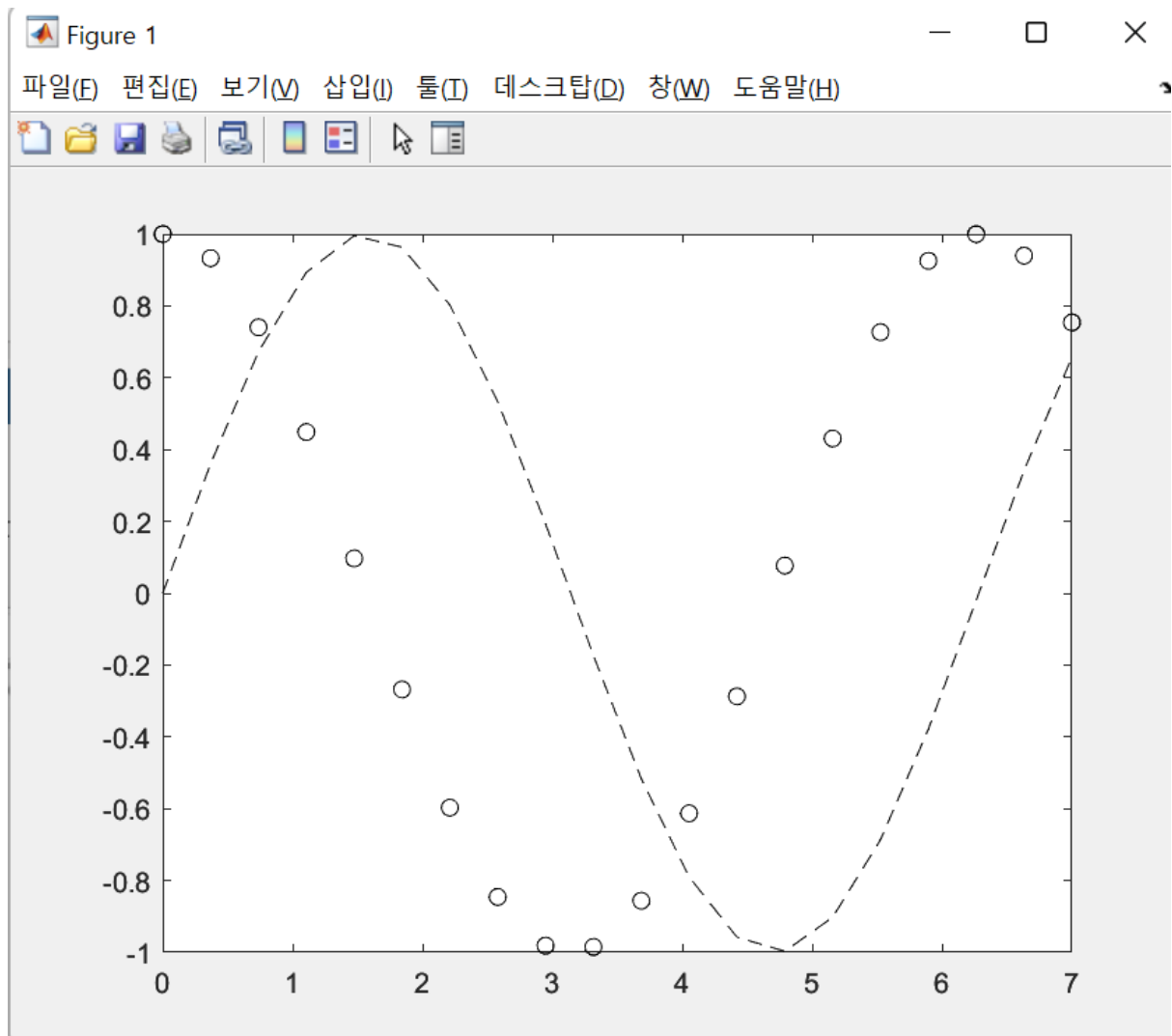
```
>> x = linspace( 0, 5 , 6)
```

```
x =
```

```
0    1    2    3    4    5
```

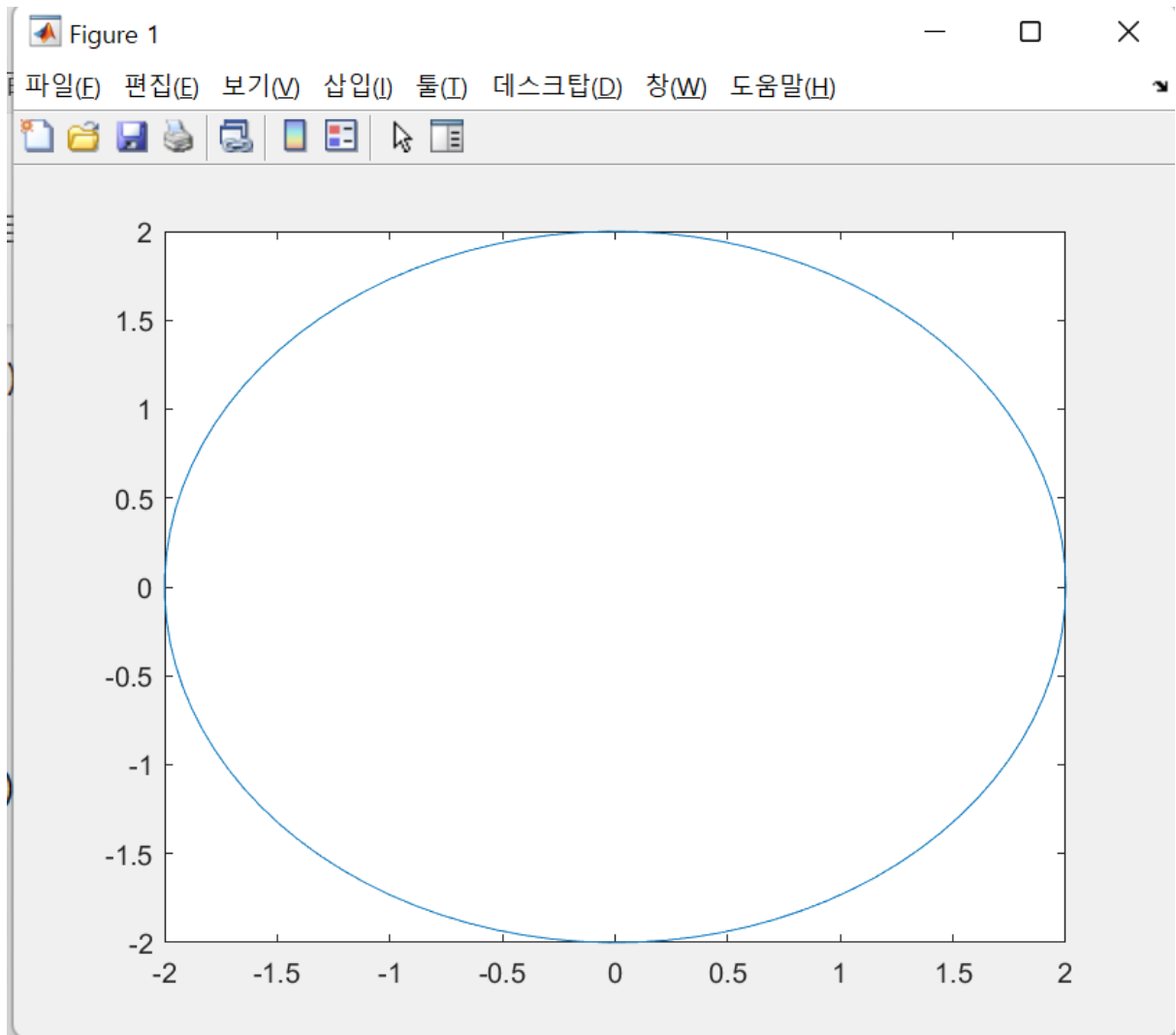
Plot

```
>> x=linspace(0,7,20);  
>> plot(x,sin(x),'k--',x,cos(x),'ko')  
fx>> |
```



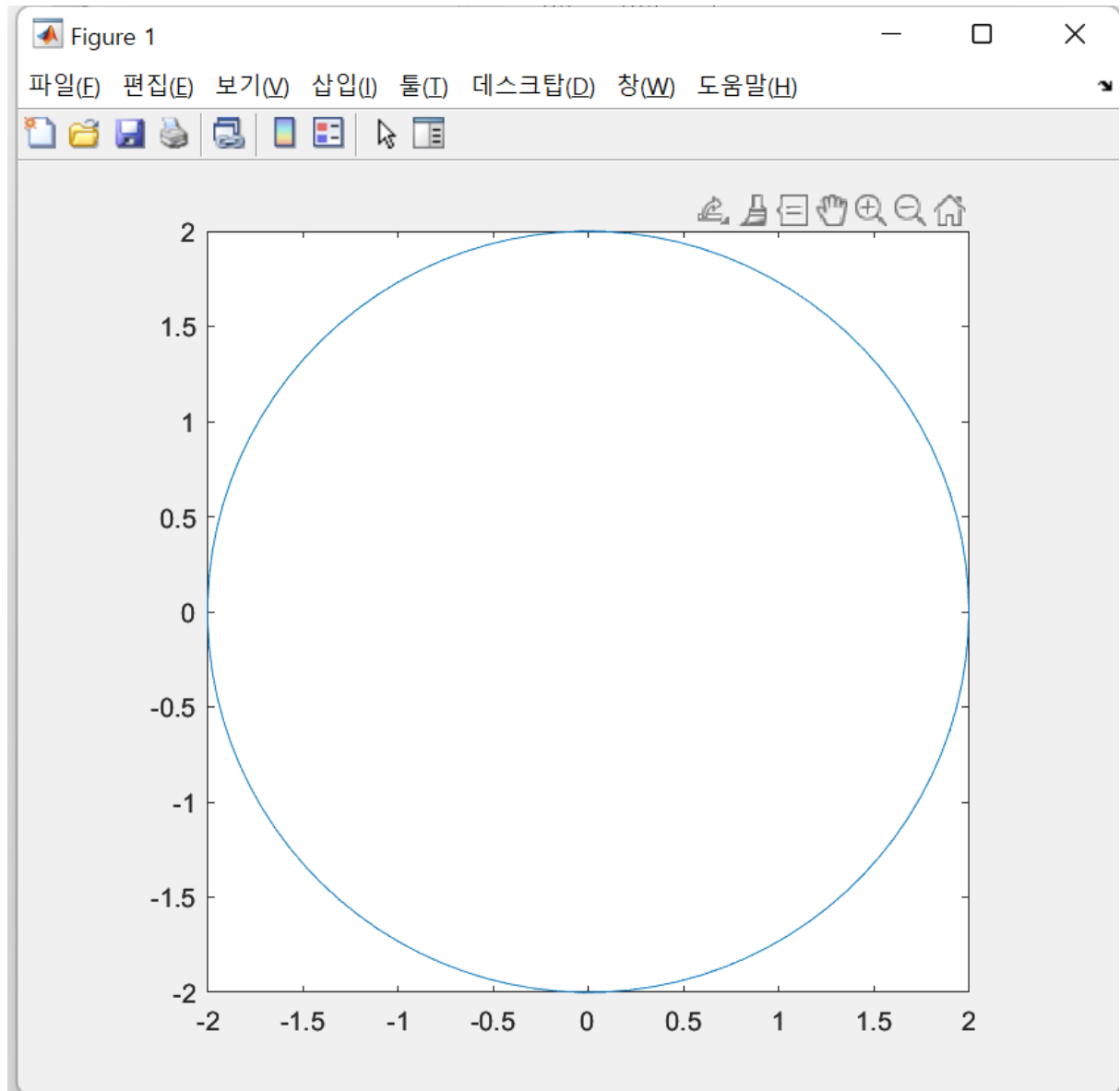
(a) 좌표계가 default인 경우

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



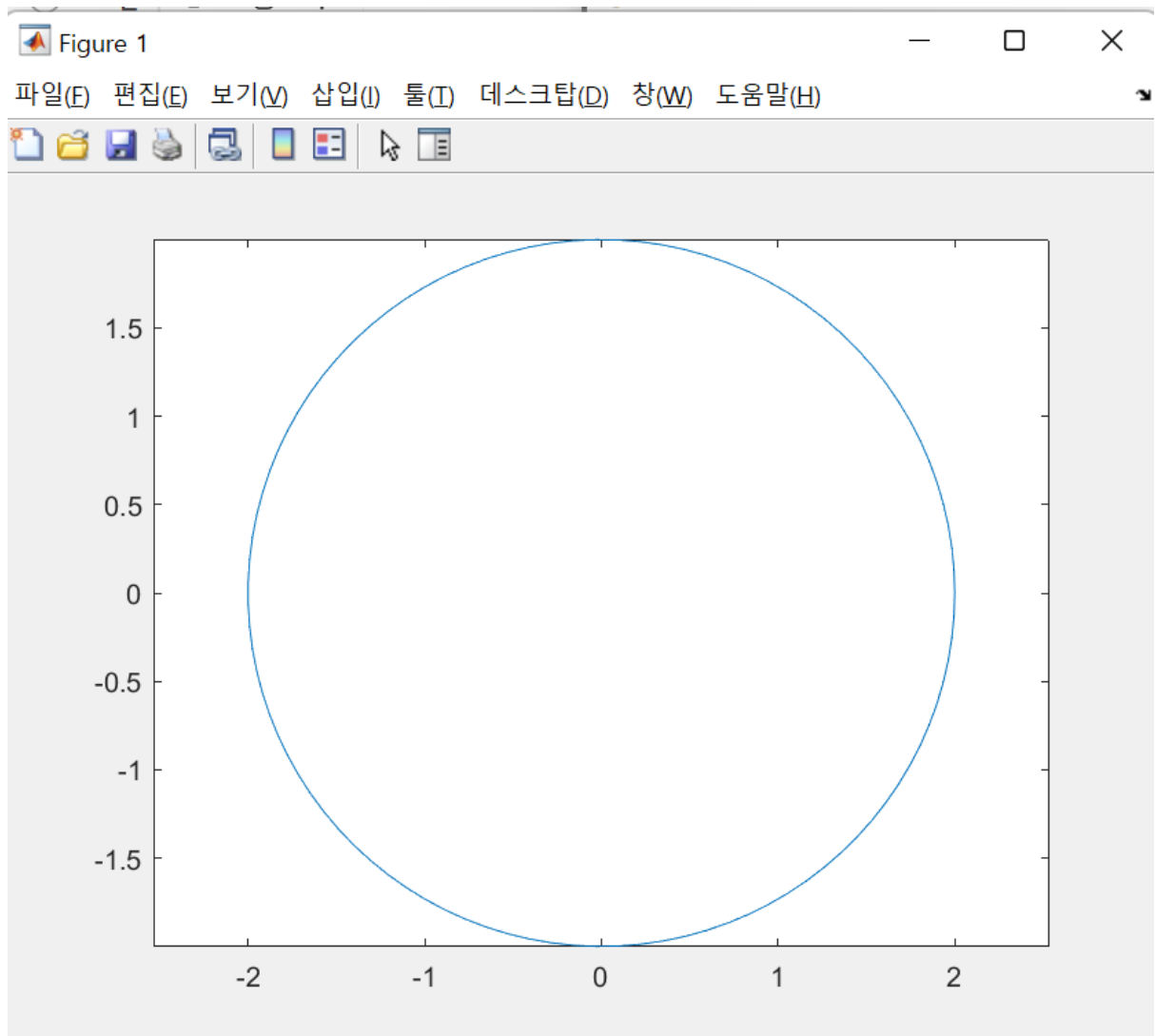
(b) 좌표계가square인 경우

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



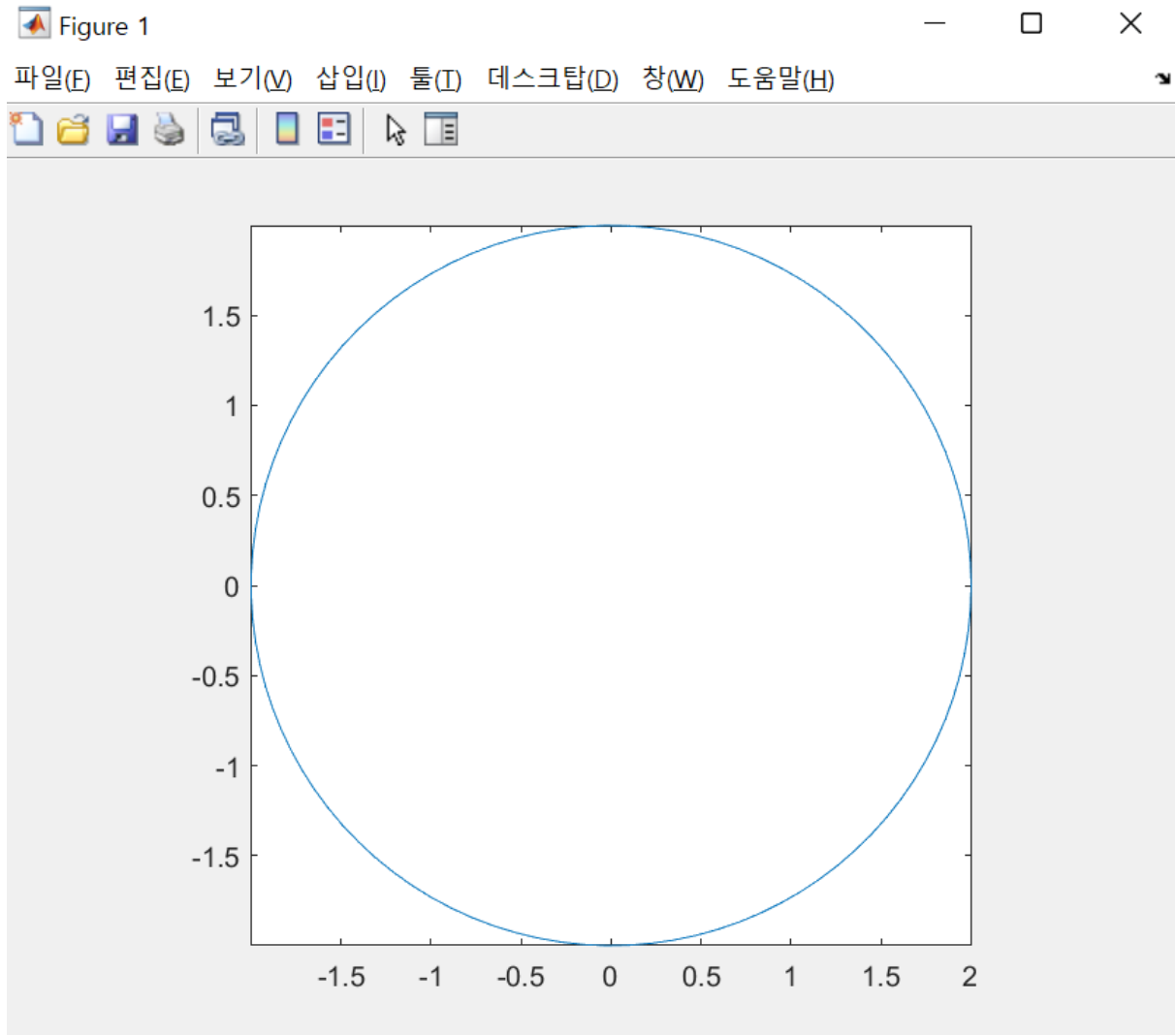
(c) 좌표계가 equal인 경우

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



(d) 좌표계가 image인 경우

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



ones

```
>> ones(3)
```

```
ans =
```

```
     1     1     1
     1     1     1
     1     1     1
```

zeros

```
>> zeros(2)
```

```
ans =
```

```
     0     0
     0     0
```

length

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

```
ans =
```

```
     3
```

sum

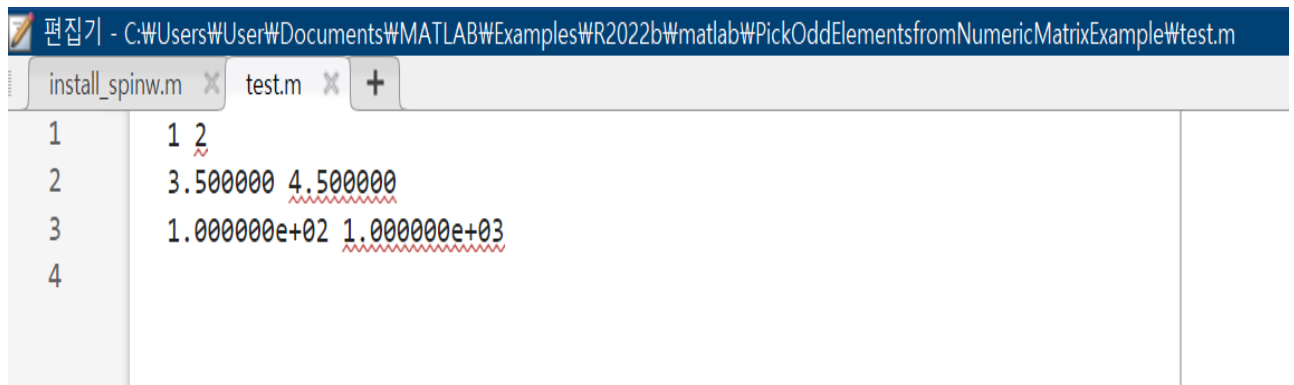
```
>> A=[1 2 3;4 5 6; 7 8 9];  
>> sum(A)  
  
ans =  
  
    12    15    18
```

abs

```
>> abs(-3)  
  
ans =  
  
    3
```

fprintf

```
>> fp = fopen('test.m','w'); %test.m는 파일을 쓰기용으로 생성  
>> fprintf(fp,'%d %d\n', 1, 2); % 파일에 1 2 쓰기  
>> fprintf(fp,'%f %f\n', 3.5, 4.5); % 파일에 3.5 4.5 쓰기  
>> fprintf(fp,'%e %e\n', 100, 1000); % 파일에 100 1000 쓰기  
>> fclose(fp); % 파일 close
```



The screenshot shows a MATLAB editor window with the title bar "편집기 - C:\Users\User\Documents\MATLAB\Examples\WR2022b\matlab\PickOddElementsfromNumericMatrixExample\test.m". The editor has two tabs: "install_spinw.m" and "test.m". The "test.m" tab is active, showing the following content:

```
1      1 2  
2      3.500000 4.500000  
3      1.000000e+02 1.000000e+03  
4
```

load

```
>> a = load('test.m');  
>> a  
  
a =  
  
    1.0e+03 *  
  
    0.0010    0.0020  
    0.0035    0.0045  
    0.1000    1.0000
```

rand()함수

```
>> 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
```