

Q01 to Q09

```
>> angles = [45, 30, 60, 90, 0, 75, 15];
>> angles
angles =

    45    30    60    90     0    75    15

>> disp('1. Values of sin() for the given angles:');
1. Values of sin() for the given angles:
>> sin_values = sin(deg2rad(angles));
>> disp(sin_values);
    0.7071    0.5000    0.8660    1.0000         0    0.9659    0.2588
>>
>>
>> disp('2. Values of sind() for the given angles:');
2. Values of sind() for the given angles:
>> sind_values = sind(angles);
>> disp(sind_values);
    0.7071    0.5000    0.8660    1.0000         0    0.9659    0.2588
>>
>>
>> disp('3. Values of tan() for the given angles:');
3. Values of tan() for the given angles:
>>
>> tan_values = tan(deg2rad(angles));
>> disp(tan_values);
    1.0000e+00    5.7735e-01    1.7321e+00    1.6331e+16         0    3.7321e+00    2.6795e-01
>>
>>
>>
```

```

Command Window
>> disp('4. Values of tand() for the given angles:');
4. Values of tand() for the given angles:
>>
>> tand_values = tand(angles);
>> disp(tand_values);
    1.0000    0.5774    1.7321         Inf         0    3.7321    0.2679
>>
>>
>> disp('5. Values of cos() for the given angles:');
5. Values of cos() for the given angles:
>>
>> cos_values = cos(deg2rad(angles));
>> disp(cos_values);
    7.0711e-01    8.6603e-01    5.0000e-01    6.1230e-17    1.0000e+00    2.5882e-01    9.6593e-01
>>
>> disp('6. Values of cosd() for the given angles:');
6. Values of cosd() for the given angles:
>>
>> cosd_values = cosd(angles);
>> disp(cosd_values);
    0.7071    0.8660    0.5000         0    1.0000    0.2588    0.9659
>>
>>
>> disp('7. Values of sinh() for the given angles:');
7. Values of sinh() for the given angles:
>>
>>
>> sinh_values = sinh(deg2rad(angles));
>> disp(sinh_values);
    0.8687    0.5479    1.2494    2.3013         0    1.7162    0.2648
>>
>>
>> disp('8. Values of cosh() for the given angles:');
8. Values of cosh() for the given angles:
>>
>> cosh_values = cosh(deg2rad(angles));
>> disp(cosh_values);
    1.3246    1.1402    1.6003    2.5092    1.0000    1.9863    1.0345
>>
>>
>>

>> disp('9. Values of tanh() for the given angles:');
9. Values of tanh() for the given angles:
>>
>> tanh_values = tanh(deg2rad(angles));
>> disp(tanh_values);
    0.6558    0.4805    0.7807    0.9172         0    0.8640    0.2560
>>
>>
>>
>>

```

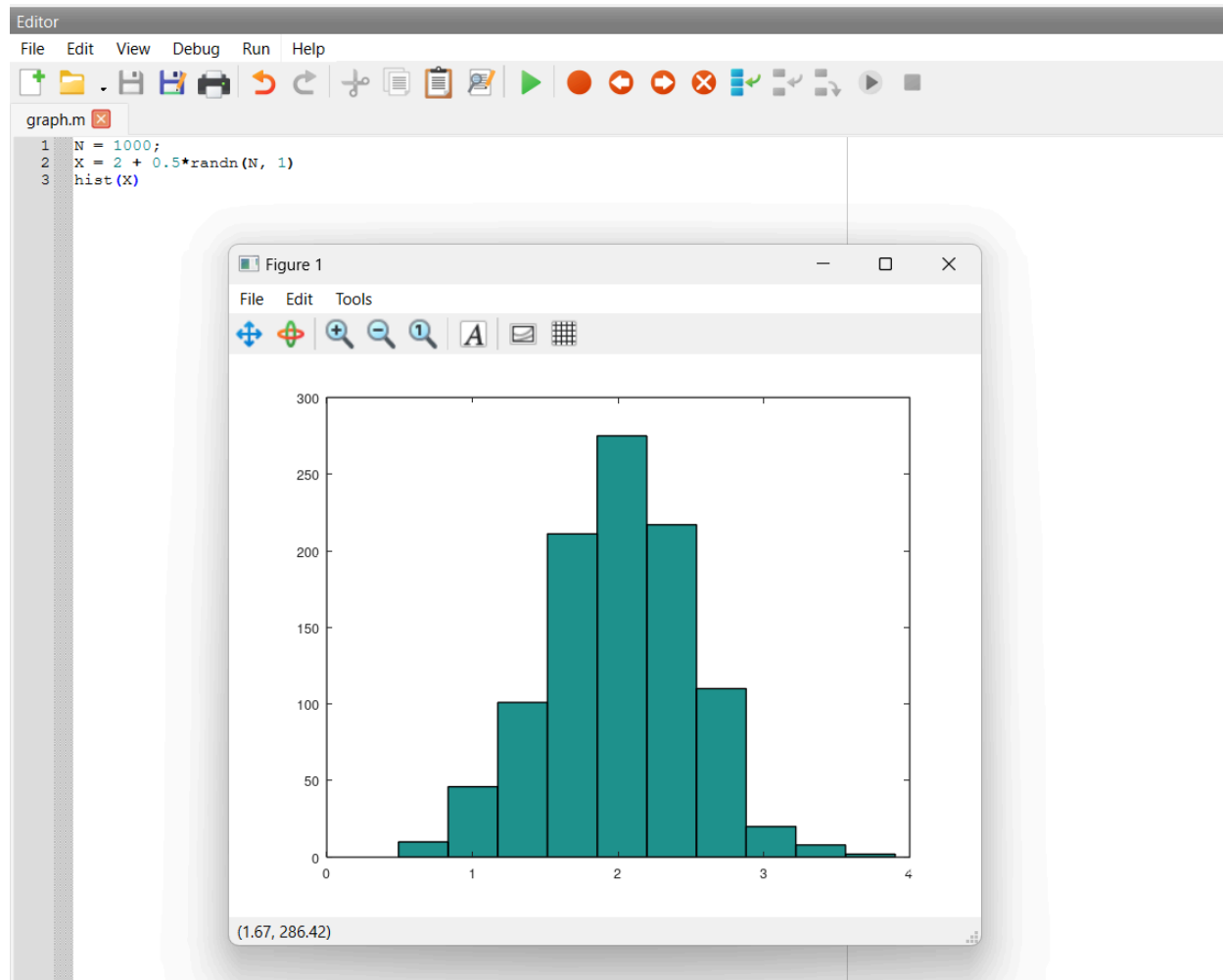
Q10

```
>>
>>
>>
>> operation1 = tand(90) + secd(90);
>> disp(operation1)
Inf
>>
>> operation2 = tand(90) - secd(90);
>> disp(operation2)
NaN
>>
>> operation3 = tand(90) * secd(90);
>> disp(operation3)
Inf
>>
>> operation4 = tand(90) / secd(90);
>> disp(operation4)
NaN
>>
>>
>> operation5 = cotd(90) + secd(90);
>> disp(operation5)
Inf
>>
>> operation6 = secd(90) * cotd(90);
>> disp(operation6)
NaN
>>
>> operation7 = secd(90) / cotd(90);
>> disp(operation7)
Inf
>>
>>
```

Command window

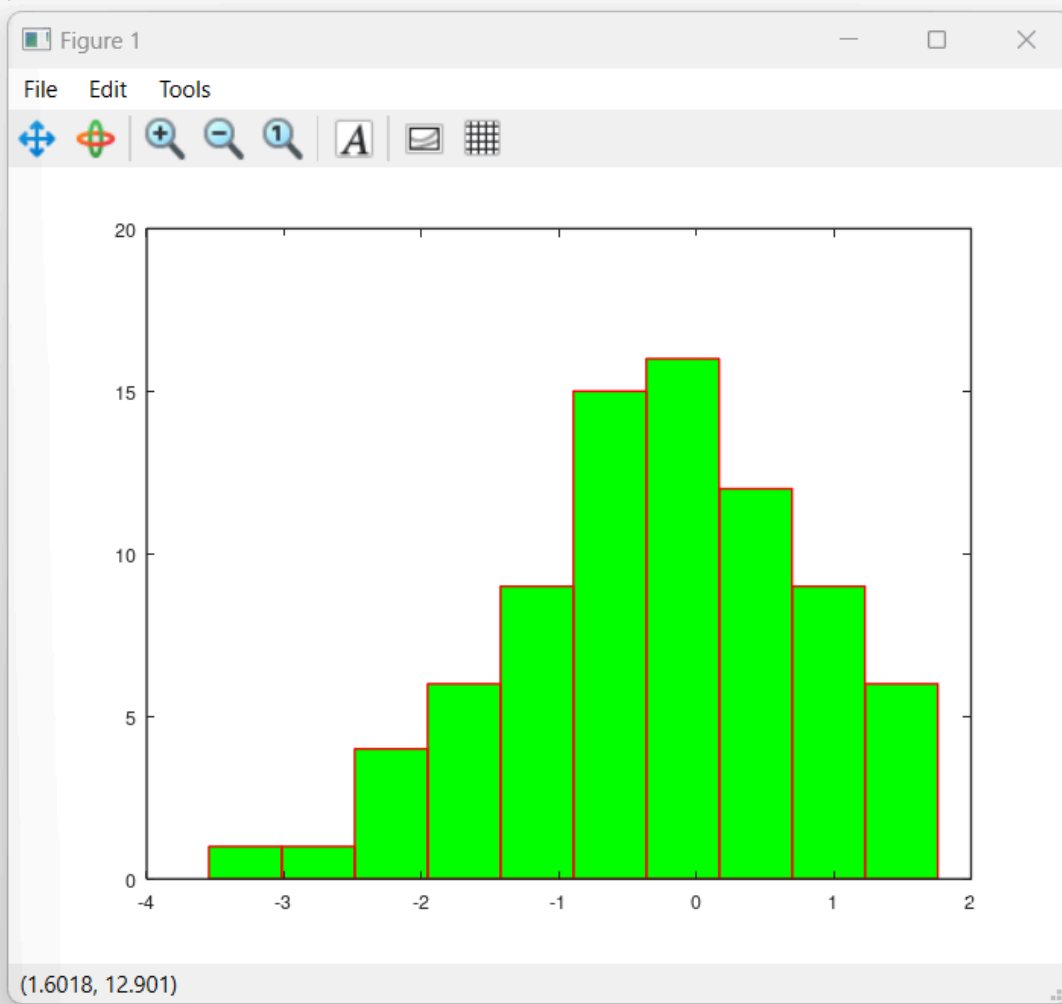
```
>> operation8 = cotd(90) - secd(90);  
>> disp(operation8)  
-Inf  
>>  
>> operation9 = exp(0) - cos(0);  
>> disp(operation9)  
0  
>>  
>>  
>> operation10 = exp(0) + cos(0);  
>> disp(operation10)  
2  
>>  
>> operation11 = sin(90) + cos(0) + log(e);  
>> disp(operation11)  
2.8940  
>>  
>>  
>>
```

Q11



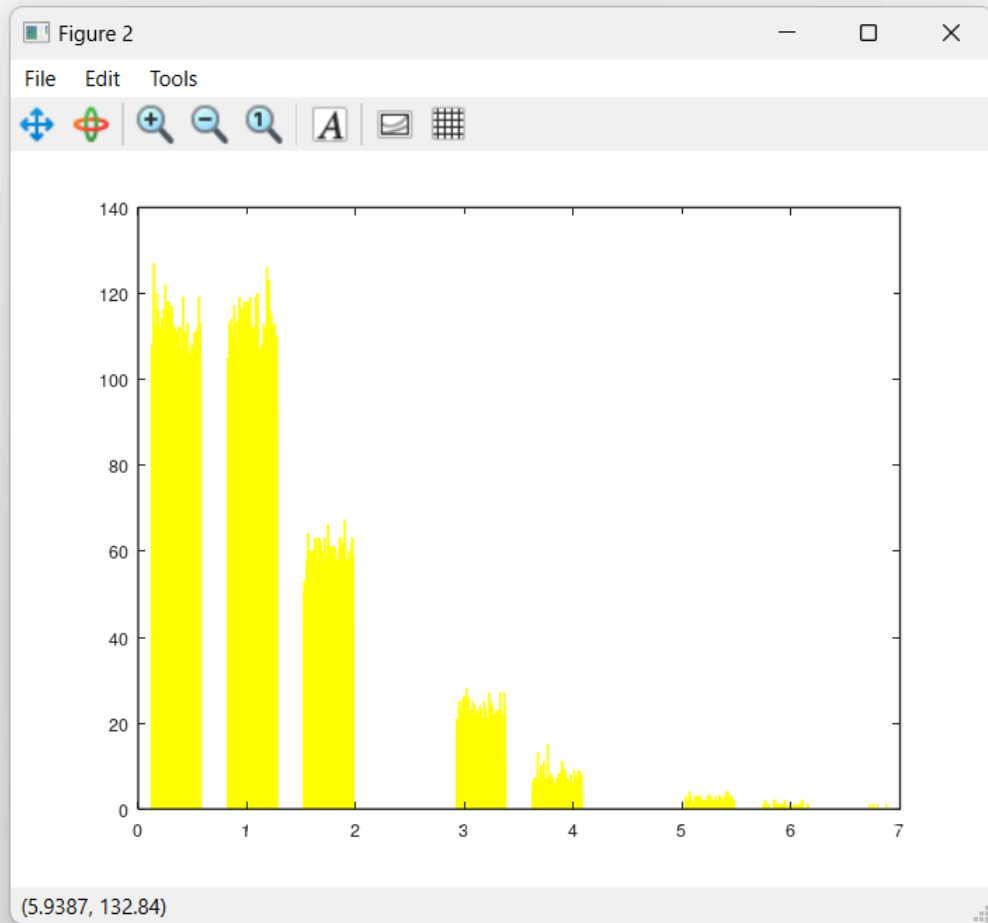
Q12

```
> values = randn(1, 79);  
> figure;  
> hist(values, 'FaceColor', 'g', 'EdgeColor', 'r');  
> |
```



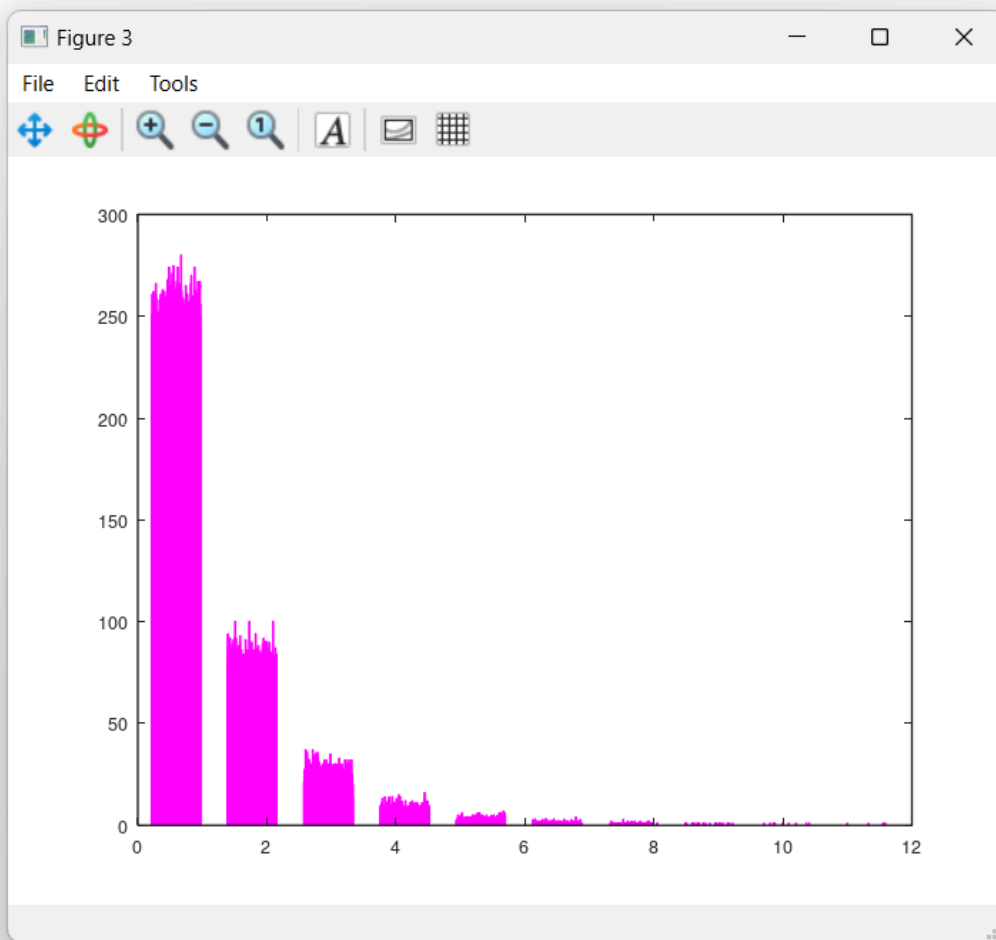
Q13

```
> values = randp(1, 280);  
> figure;  
> hist(values, 'FaceColor', 'b', 'EdgeColor', 'y');  
> |
```



Q14

```
>> values = randg(1, 360);  
>> figure;  
>> hist(values, 'FaceColor', 'c', 'EdgeColor', 'm');
```



Q15

```
>> matrix_10x7 = randi([1, 80], 10, 7);
>> disp(matrix_10x7);
73    31    70    52    29    50    39
 1    67    57    78    38    43    48
50    40     3    28     2    50    29
56    28     2    18     3    25    77
29    56    15    50    45    63    69
64    22     8    68    70    29    71
 7    13    15    69    52    28     8
74    41    54     7    29    52    21
63    55    66    33    63    78    28
 4    45    33    42    34     3    57
>>
>>
```

Q16

```
>>
>> matrix_10x10 = randi([1, 490], 10, 10);
>> disp(matrix_10x10);
116    435    293    220    463    244    295     83    439     66
 6     59    319     45     24     1    240    393     15    102
365    299    399    131     4    324    163    338    195    223
330     11    351     43    372    478    438    243    351     12
 47     63    354     35    184    409    442    391    271    449
 64    272     82    194     71    323     24    351    127    490
 84    402    125    362    385     28    484    465    382     25
273    264    279    162     75     60    457    279    352    365
205    360    142    328    156    387    404     95    419    400
134    233     96    471    223    336    429    246    177    147
>>
^^
```

Q17

```

>
> matrix_5x5 = randi([1, 200], 5, 5);
> disp(matrix_5x5);
    149     89      1     74     34
     97    187     42     13    105
     85     91     54    177     16
     55     47    118      9     16
    199     69    173    138     99
>
>
> |

```

Q18

```

Command Window
>> result = exp(1);
>> disp(num2str(result));
2.7183
>>
>>

```

Q19

```

>>
>> matrix = [2, 4; 5, 1];
>> result = expm(matrix);
>> disp(result);
    224.15    179.28
    224.10    179.33
>>
>>

```

Q20

```
Command Window
>> logm([2,1;3,1])
warning: logm: principal matrix logarithm is not defined for matrices with negative eigenvalues;
warning: called from
    logm at line 82 column 5

ans =

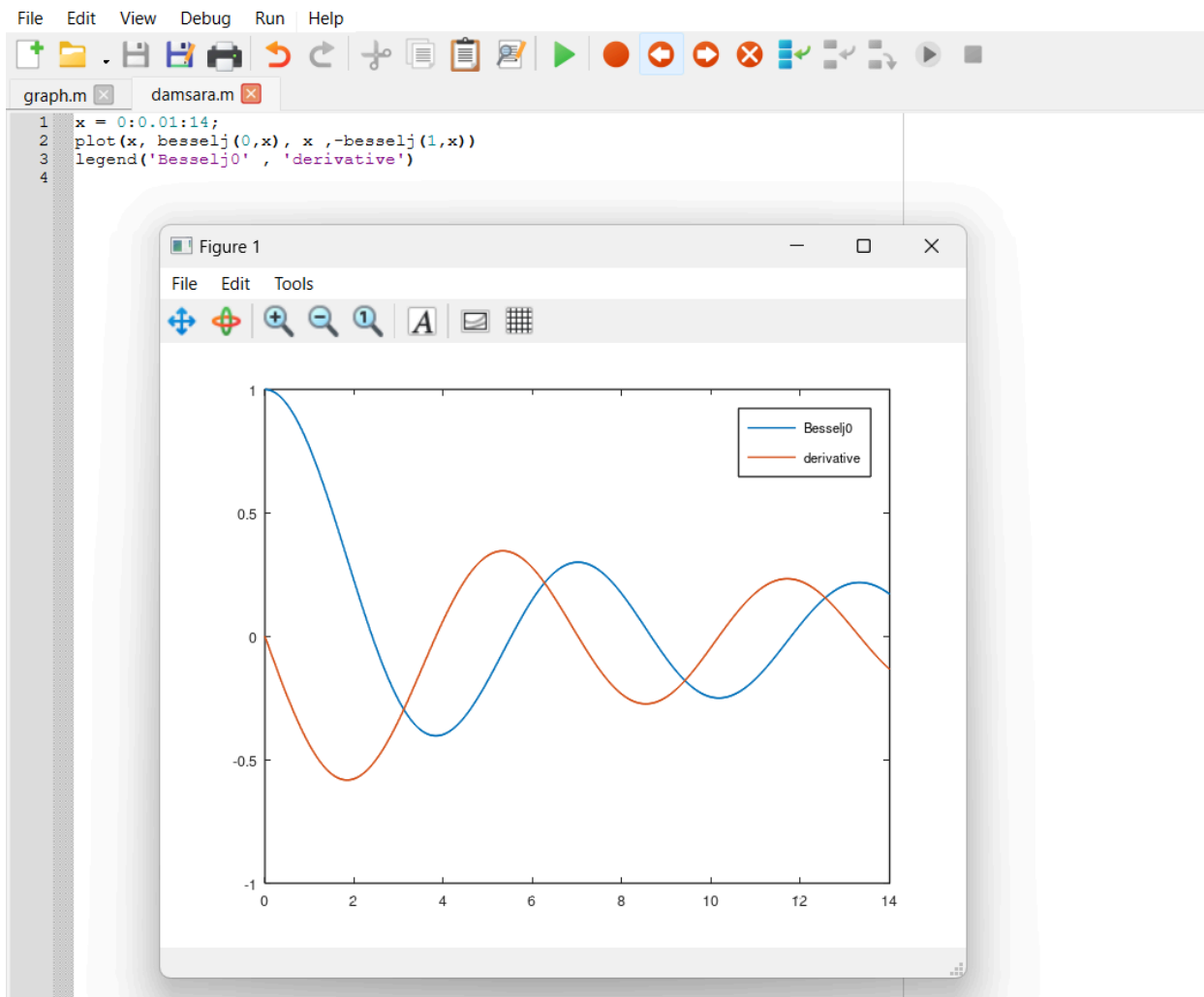
    0.3314 + 1.1351i    0.6627 - 0.8713i
    1.9882 - 2.6140i   -0.3314 + 2.0065i

>>
```

Q21

```
Command Window
>> result = log(exp(exp(1)));
>> disp(result);
2.7183
>>
>>
>>
```

Q22



Q23

Command Window

```
>> result = hex2dec('23fa');  
>> disp(result);  
9210  
>>  
>> |
```

```

>>
>> result = hex2dec('bc77');
>> disp(result);
48247
>>
>>
>> result = hex2dec('3ff21');
>> disp(result);
261921
>>
>>
>> result = num2cell('345');
>> disp(result);
{
    [1,1] = 3
    [1,2] = 4
    [1,3] = 5
}
>>
>>
>> result = num2cell(345);
>> disp(result);
{
    [1,1] = 345
}
>>
>>
>> result = num2cell("523");
>> disp(result);
{
    [1,1] = 5
    [1,2] = 2
    [1,3] = 3
}
>>
>> num2cell(523)
ans =
{
    [1,1] = 523
}

```