



کاربرگ کلاسی شماره ۳

فصل اول

کلاس داده‌ها و نوع تصویر در متلب

DATA CLASS AND IMAGE TYPE IN MATLAB
Class Worksheet #3

```
>> f = [-12.5 34.7; 325 48.3]
```

```
f =
```

```
-12.5000    34.7000
 325.0000    48.3000
```

```
>> g = uint8(f)
```

```
g =
```

```
0    35
255   48
```

```
>> f = [-0.5 0 0.5; -7.8 36.9 496.2; 0.76 1.5 12.3]
```

```
f =
```

```
-0.5000         0    0.5000
-7.8000   36.9000  496.2000
 0.7600    1.5000   12.3000
```

```
>> g = im2uint8(f)
```

```
g =
```

```
0     0   128
0   255   255
194   255   255
```

```
I = mat2gray(A, [Amin, Amax])
I = mat2gray(A)
```

$$I[x, y] = \frac{A[x, y] - A_{\min}}{A_{\max} - A_{\min}}$$

```
>> f = [-12.5 34.7; 325 48.3]
```

```
f =
```

```
-12.5000    34.7000
325.0000    48.3000
```

```
>> g = mat2gray(f)
```

```
g =
```

```
         0    0.1399
1.0000    0.1801
```

```
>> h = im2double(f)
```

```
h =
```

```
-12.5000    34.7000
325.0000    48.3000
```

```
>> f = [25 50; 128 200]
```

```
f =
```

```
    25    50
   128   200
```

```
>> g = im2double(f)
```

```
g =
```

```
    25    50
   128   200
```

```
>> g = mat2gray(f)
```

```
g =
```

```
         0    0.1429
0.5886    1.0000
```

```
>> f = uint8([25 50; 128 200])
```

```
f =
```

```
    25    50
   128   200
```

```
>> g = im2double(f)
```

```
g =
```

```
    0.0980    0.1961
    0.5020    0.7843
```

```
>> g = mat2gray(f)

g =

    0    0.1429
0.5886    1.0000
```

```
BW = im2bw(I, threshold) % 0 <= threshold <= 1
BW = im2bw(I)
```

```
>> f = uint8([27 128; 58 203])

f =

    27    128
    58    203

>> g = im2bw(f, 0.6)

g =

    0    0
    0    1

>> gs = mat2gray(f)

gs =

    0    0.5739
0.1761    1.0000

>> gs = im2bw(gs, 0.6)

gs =

    0    0
    0    1

>> g = (f > 128)

g =

    0    0
    0    1
```

مراجع

[۱] ح. مقسمی و ب. علی‌زاده، پردازش تصویر با رویکردی کاربردی، گسترش علوم پایه، ۱۳۹۲.