Module 05: Built-in Functions

Chul Min Yeum
Assistant Professor
Civil and Environmental Engineering
University of Waterloo, Canada

UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING

M05-Q1: Which of the best describe the following script?

```
vec = [1 2 3 4 5 6 7 8 9];

lg = rem(vec, 2) == 1;

val = sum(lg);
```

M05-Q2: What is a value finally assigned to *s* ?

```
mat0 = [1 2 3; 4 5 6; 7 8 9];

v1 = max(mat0, [], 1);
v2 = max(mat0, [], 2);
v3 = max(mat0, [], 'all');

s = v1(1) + v2(1) + v3(1);
```

mat0

1	2	3
4	5	6
7	8	9

M05-Q3: Which of a matrix has a different value compared to the other three?

```
vec0 = zeros(2,1);
mat0 = [1 1; 2 2];

mat1 = [mat0 vec0]
mat2 = cat(2, mat0, vec0)
mat3 = [vec0+1 vec0+2 vec0]
mat4 = flip([vec0 mat0], 2)
```

M05-Q4: Which of a vector has a different value compared to the other three?

```
mat0 = [1 2 3; 4 5 6; 7 8 9];

vec1 = sum(mat0)
vec2 = [];
vec3 = [];
for ii=1:3
    vec2 = [vec2 sum(mat0(:,ii))];
    vec3 = [vec3 sum(mat0(:,ii), 'all')];
end
vec4 = sum(mat0, 2)'
```

M05-Q5: What is a value finally assigned to *val* ?

```
vec1 = [-1.2 6.3 7.5 -3.8]
vec2 = vec1-fix(vec1);

vec3 = abs(vec2)
[~, loc] = max(vec3)
val = vec1(loc);
```

fix (x)	Truncates **x** to the nearest integer toward zero.

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M05-Q6: What is a value finally assigned to *val*?

```
vec = [2 1 5 7 4 -2 3 -9 4 -1];

n_v = numel(vec);

val = vec(1);

for ii=2:n_v
    if (vec(ii) < val) && (vec(ii) > 0)
        val = vec(ii);
    end
end
```