

Conditional Statements in MATLAB

1. If else and if elseif statement

% Example 1

```
if 5 > 8
    disp ('It is True')
else
    disp ('It is False')
end
```

% Example 2

```
a = input ('Enter a number; a = ');
b = input ('Enter a number; b = ');
if a < b
    disp ('a < b')
elseif a > b
    disp ('a > b')
else
    disp ('a = b')
end
```

% Example 3

```
yournumber = input ('Enter a number: ')
if yournumber < 0
    disp ('negative')
elseif yournumber > 0
    disp ('positive')
else ('zero')
end
```

% Example 4

```
nrows = 4;
ncols = 6;
A = ones (nrows, ncols);
for c = 1:ncols
    for r = 1:nrows
        if r == c
            A(r,c) = 2
        elseif abs(r-c) == 1
            A(r,c) = -1
        else
            A(r,c) = 0
        end
    end
end
```

% Example 5 Evaluate $f(x,y)$ at x and y

$$f(x,y) = \begin{cases} x + y & x \geq 0 \text{ and } y \geq 0 \\ x + y^2 & x \geq 0 \text{ and } y < 0 \\ x^2 + y & x < 0 \text{ and } y \geq 0 \\ x^2 + y^2 & x < 0 \text{ and } y < 0 \end{cases}$$

```
x = input ('Enter the x coefficient: ');
y = input ('Enter the y coefficient: ');
if (x>=0&&y>=0)
    fun = x + y;
elseif (x>=0&&y<0)
    fun = x + y^2;
elseif (x<0&&y>=0)
    fun = x^2 + y;
else (x<0&&y<0)
    fun = x^2 + y^2
end
```