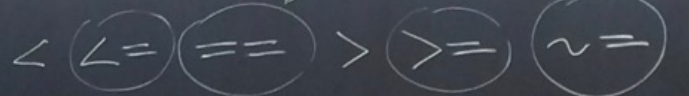


Chap 1 → REVIEW

RELATIONAL EXPRESSIONS

REL. OPERATORS :



LOGICAL OPERATORS :

$\parallel$  ← OR

$\&\&$  ← AND

$\sim$  ← NOT

>> a = 5

>> b = 6

>> a == b

>> ans = 0 % FALSE

>> a+1 == b

>> ans = 1 % TRUE

>> a < 5 || b == 6

>> ans = 1

>> a == 5 &&  $\sim$  b < 6  
                                  OK

>> ans = 1

$\sim$  b < 6  
ERROR

# DECISION STRUCTURES IN MATLAB

(IF)

```
if a == 5
    disp('a = 5')
```

ONLY IF EXPRESSION IS TRUE THEN DO THIS

end

```
if (a < b) && (b == 6)
    disp('yes')
```

MULTIPLE  
elseif

```
elseif (a > b) && (b == 6)
    disp('case 2')
```

else  
end

```
T = getRxrTemp(#RxR)
```

% CHECK & DECIDE

```
if T > 300 && T < 400
    disp('OK')
```

ONE OR MANY ACTIONS

```
elseif T > 500
```

```
    disp('ALARM, SHUT DOWN')
```

```
elseif T >= 400 && T <= 500
```

```
    disp('COOL RXR')
```

```
elseif
```

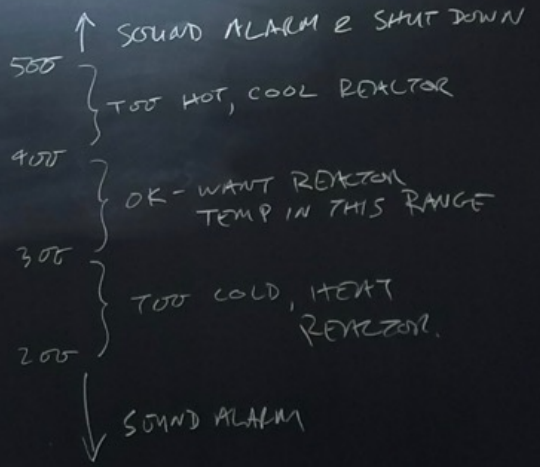
```
else
```

```
end
```

```
    disp('CHECK SYSTEM')
```

T ↑

## TEMPERATURE OF A CHEMICAL REACTOR



## SWITCH STRUCTURE

e.g.:

```
ch = menu('make a choice', 'this', 'that', 'other')
```

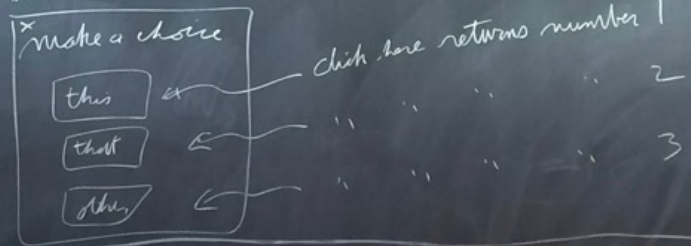
```
switch (ch) ← VARIABLE NAME
    case 1 ← VALUE OR LIST OF VALUES INSIDE {1, 2, 3}
    case 2
    case 3
    otherwise
end
```

ONE OR MORE CASES

```
    disp('you picked this')
    disp('        that')
    disp('        other')
    otherwise
    disp('nope!')
```

OPTIONAL ACTION IF NONE ABOVE MATCH

### DISPLAY A MENU WINDOW



ANY SWITCH STRUCTURE CAN BE WRITTEN AS AN IF STRUCTURE

SOME IF'S CAN BE WRITTEN AS SWITCH'S

OTHER IF'S CAN NOT BE " " " → IF'S CAN HANDLE RANGES OF VALUES

e.g. REACTOR T CONTROL PREVIOUS BOARD SWITCH'S NEED ONE OR LIST OF SPECIFIC " "

!! DO NOT ABSOLUTELY NEED SWITCH'S → PYTHON DOES NOT HAVE SWITCH'S

WHEN SWITCH'S WORK → CAN OFTEN BE TYPED AND READ FASTER

SEE SWITCH OFTEN WITH MENUS

if Ch == 1

disp('that')

elseif Ch == 2

~~~~~

elseif Ch == 3

~~~~~

else

~~~~~

end