



**SUMMER SESSION I 2014**  
**EECS 10 WEEK2 DISCUSSION1**  
Che-Wei Chang

# OVERVIEW

- Administration
- Concept Review
  - Comparison of values
  - Something about Operator
  - Control flows in C
- Assignment Discussion
  - Part 1 of the Assignment 2



# ADMINISTRATION

- Please post any homework or lecture related questions on the course Messageboard
  - Question via e-mail will be directed to the Messageboard
- Please read the posts on the Messageboard
  - Read the assignment handout
  - Read the lecture slides
- Please visit the discussion / lab session as well as the office hours for confusing questions
  - Face to face communication is more efficient
- First mid-term on Thursday.



# COMPARISON OF VALUES

- Relational Operators

- Direct comparison of two values

- Example:            <            less than  
                         >=          greater than or equal to  
                         ==          equal to  
                         !=          not equal to

- Defined for all basic type (ex. Integer, floating point)
- Return value **True** or **False**

- Logical Operators

- Argument and result types are Boolean
- Example:            A||B

- Conditional Operators

- Conditional evaluation of expressions
- Example:            *result = (condition) ? true-value : false-value ;*

x	y	!x	x && y	x    y
0	0	1	0	0
0	1	1	0	1
1	0	0	0	1
1	1	0	1	1



## EVALUATE THE FOLLOWING EXPRESSIONS

- $5 < 6$  ◆ 1
- `float f1 = 6.0, f2 = 6e1`
  - $f1 > f2$  ◆ 0
  - $f1 > -f2$  ◆ 1
- `int i = 10`
  - $(i < 20) \ \&\& \ (i > 5)$  ◆ 1
  - $(i < 5) \ || \ (i > 10)$  ◆ 0
  - $!((i < 1) \ || \ (i > 9))$  ◆ 0
- `int d = -3 ;`
  - $d = (4 < 5)? (43) : (4+8) ;$  ◆  $d = 43$
  - $d = (d == -1-2)? (-d) : (d) ;$  ◆  $d = 3$
  - $d = (d < 0)? (-d) : d$  ◆  $d = 3$



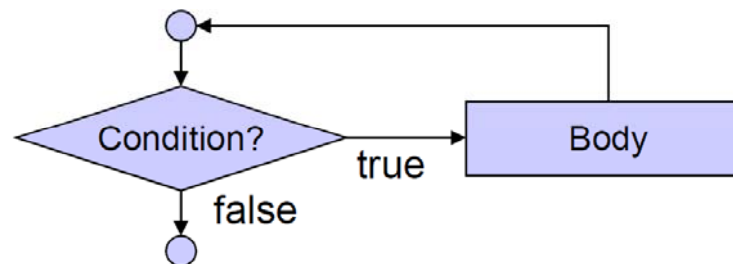
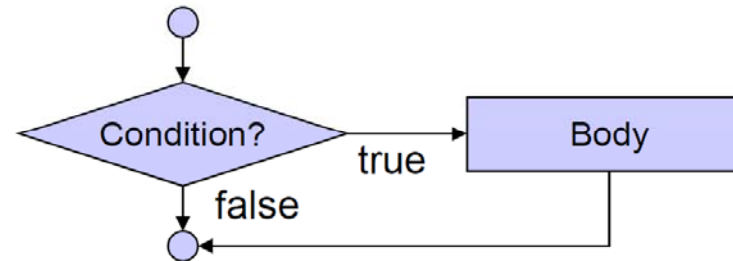
# ADVANCED OPERATORS

- Augmented Assignment Operators
  - +=, -=, \*=, /=, %=, <<=, >>=, |=, &=
  - $x += 3 \quad \leftrightarrow \quad x = x + 3$
- Increment and Decrement Operators
  - Post-increment                    `count++`
  - Pre-increment                    `++count`
  - Post-decrement                   `count--`
  - Pre-decrement                    `--count`



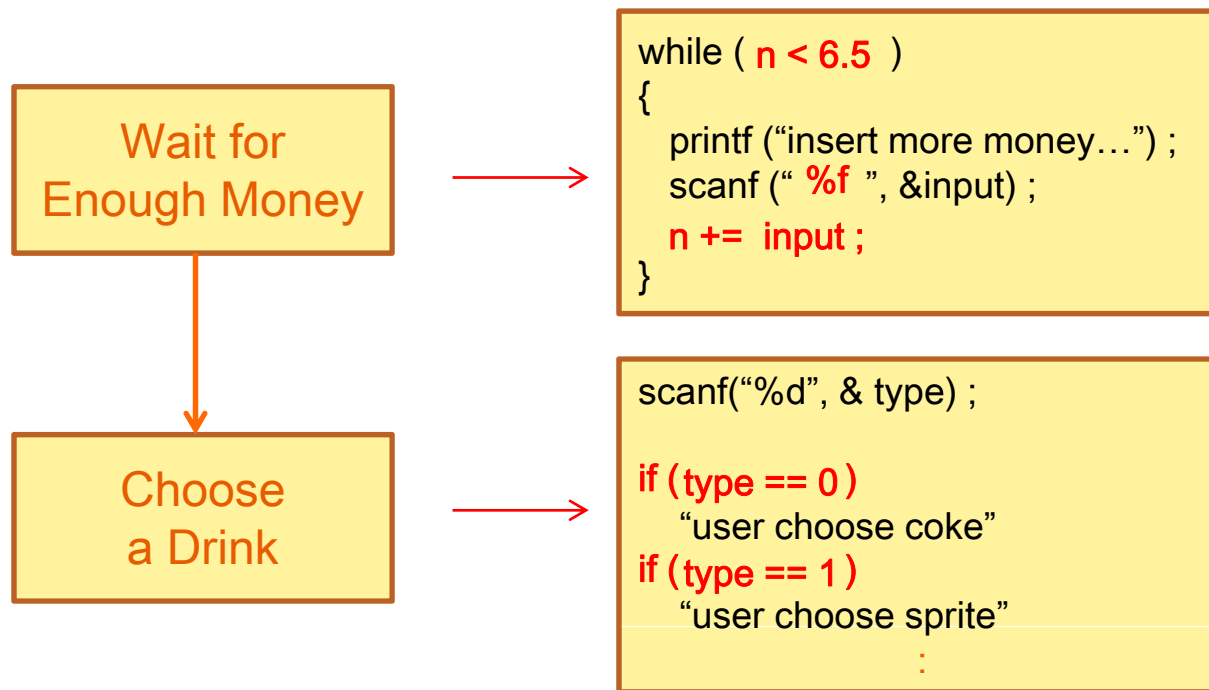
# CONTROL FLOWS IN C (1)

- Conditional statement
  - `if (condition)`  
`{`  
`body;`  
`}`
- Repetition statement
  - `while (condition)`  
`{`  
`body;`  
`}`
- Condition:
  - Expression evaluation
  - 1 (true) or 0 (false)



# CONTROL FLOWS IN C (2)

- Simple Example – Vending machine
  - All drinks are at the same price (USD 6.5)
  - 5 kinds of drink to choose (coke, sprite, dr.pepper, ...)
  - Using **if** and **while** statement to program a vending machine





# ASSIGNMENT DISCUSSION

- Assignment 2, Part 1
  - Before you implement your work, take a look at lecture slides 2.2, page 30-32
  - Read the assignment handout carefully
- Calculate the approximation of  $e^x$

$$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} = 1 + x + \frac{1}{2!}x^2 + \frac{1}{3!}x^3 + \dots + \frac{1}{n!}x^n + \dots$$

- Describe your work with the following detail in the .txt
  - What type of variable you used in the program? Why?
  - Any difficulty you faced in this assignment.
- Name your files e.c, e.txt and e.script

