



SUMMER SESSION I 2014
EECS 10 WEEK2 DISCUSSION2
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FORMATTED OUTPUT

- Formatted output using printf()
 - Standard format sequence for integer values
 - % [flags] [width] [length] [conversion]
 - Examples : %-8d
 %+8d
 %x, %o
 - Standard format sequence for floating point values
 - % [flags] [width] [precision] [length] [conversion]
 - Examples : %12.4f
 %12.4e
 %12.4g
 - Refer to lecture slides 4, page 5~9



PROGRAMMING PRINCIPLES

- Problem Definition
 - Input, Output Data
- Algorithm
 - Procedure to solve the problem
 - Detail set of actions, the order of the actions, termination
- Pseudo Code
 - Planning a program
 - Informal description of the algorithm sets
- Control Flow
 - Execution order of statements in the program
- Program
 - Instructions for the computer
 - Formal description in programming language



STRUCTURED PROGRAMMING

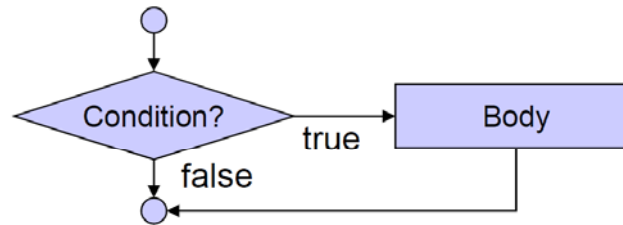
- Control Structure
 - Sequence structure
 - Selection structure
 - Repetition structure
- Control Flow Charts
 - Concept: Refer to Lecture 4 slides, page 21
 - Example: Refer to Lecture 4 slides, page 22~30
- Readability of the code
 - Proper indentation is highly recommended.
 - Refer to Lecture 4 slides, page 16



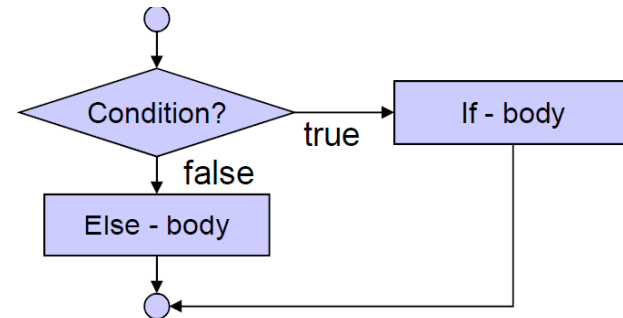
CONTROL FLOW CHART

- Graphical Representation

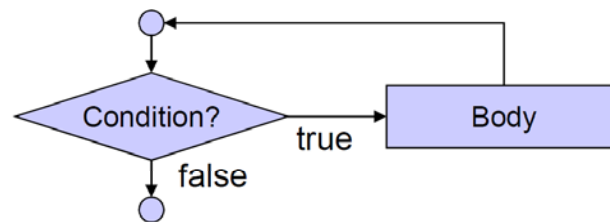
- ```
if (condition)
{
 body ;
}
```



- ```
if (condition)
{
    if-body ;
}
else
{
    else-body ;
}
```



- ```
while (condition)
{
 body ;
}
```



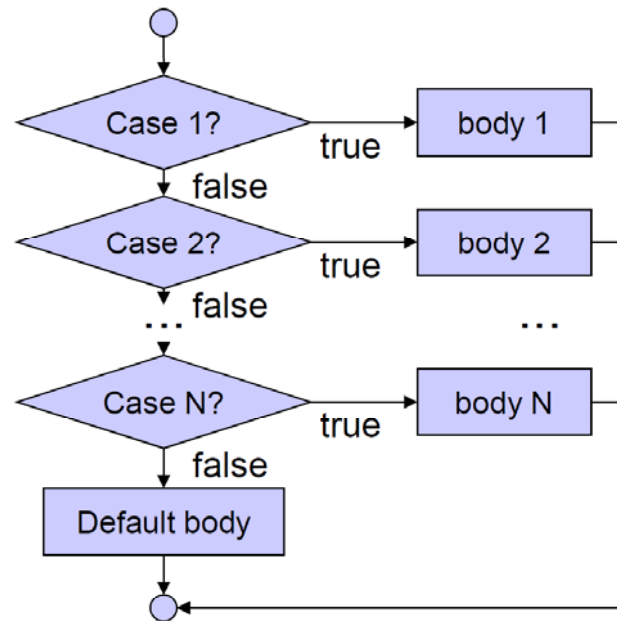
Selection Structure

Repetition Structure



# CONTROL FLOW CHART

```
○ switch (expression)
{
 case constant-expression 1:
 {
 Body-1
 break ;
 }
 case constant-expression 2:
 {
 Body-2
 break ;
 }
 ...
 case constant-expression N:
 {
 Body-N
 break ;
 }
 default:
}
```



Selection Structure



# ASSIGNMENT DISCUSSION

- Assignment 2, Part 2
  - Before you implement your work, take a look at lecture slides 4, Example Grade.c (p31-p33) and Grade2.c (p35-p37)
  - Read the assignment handout carefully
- Calculate the weekday of any date
  - Example : what weekday is Aug 15, 2013 ? **Thursday**
  - What is the input? What is the output?
  - What algorithm to solve this problem?
  - What is the control flow for this program?
  - How to implement this program?
    - How many variables, and what types should they be?
    - How to implement floor function in C ?



# ASSIGNMENT DISCUSSION

- Briefly describe your implementation by answering the questions in the previous slides
- Use the following dates to verify your program
  - 7 / 7 / 2014 (the deadline for this assignment)
  - 1 / 1 / 2015 (the next New Year)
  - 10 / 4 / 1965 (the first day of classes at UCI)
- Name your files `weekday.c`, `weekday.txt` and `weekday.script`.

