



SUMMER SESSION I 2014
EECS 10 WEEK3 DISCUSSION1
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OUTLINE

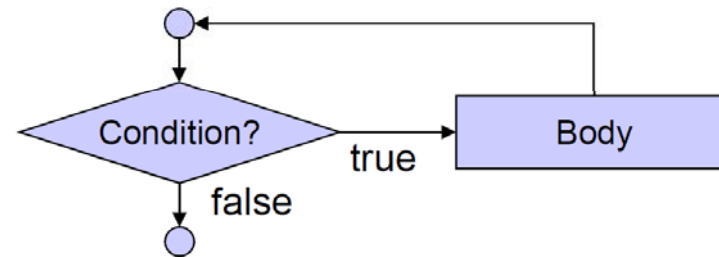
- Repetition statement
- Structured Jump statement
- Assignment 3
 - Guess the Number[20pts]



REPETITION STATEMENTS

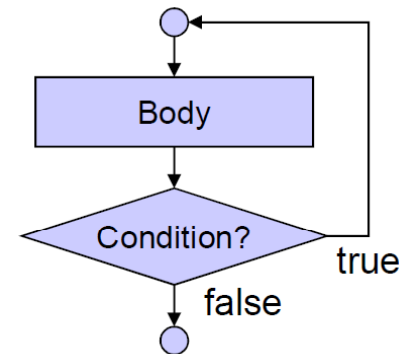
- while loop statement

- while (*condition*)
{
 body ;
 (*including changing the condition values*)
}



- do-while loop statement

- do
{
 body ;
 (*including changing the condition values*)
} while (*condition*)

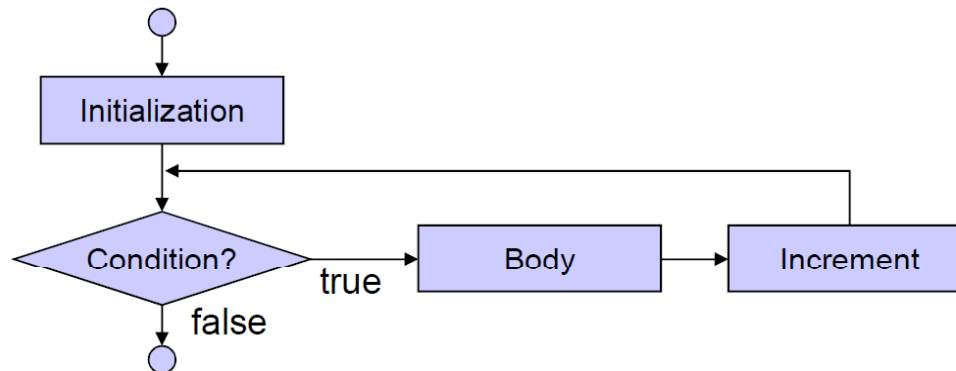


REPETITION STATEMENTS

- for loop statement
 - Syntax : for { *initialization* ; *condition* ; *increment/decrement* }
 { *Body* }
 - Example :

```
for(i = 0; i < 10; i++)  
    { printf("i = %d\n", i);  
    } /* rof */
```

- Control Flow Chart:



STRUCTURED JUMP STATEMENT

- Structured Jump Statement
 - break statement in **switch** statement
 - break and continue in **while** loop
 - break and continue in **do-while** loop
 - break and continue in **for** loop
- Arbitrary Jump Statement
 - goto



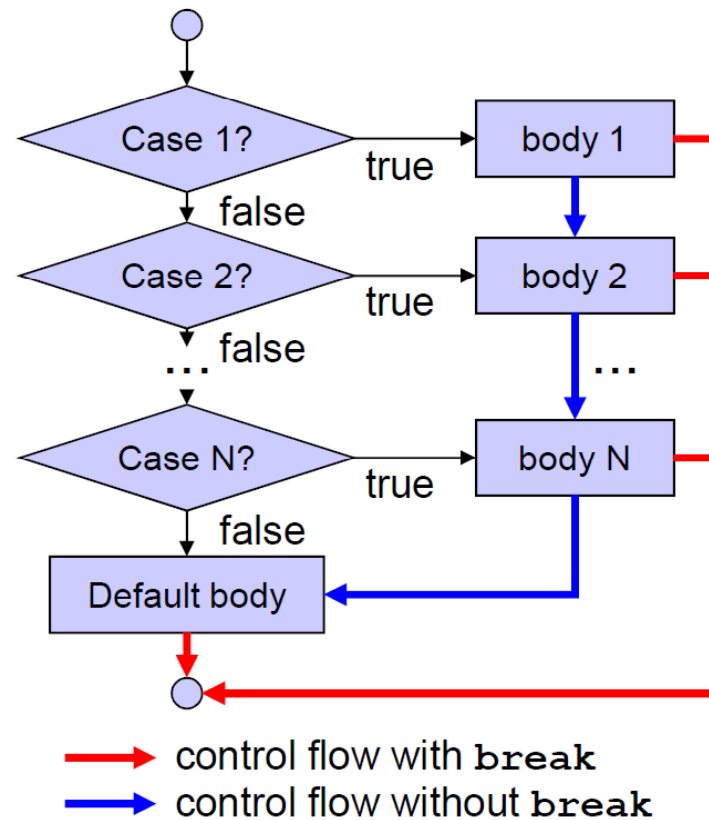
BREAK AND CONTINUE

- break
 - This can be very useful if you want to **stop running a loop** because a condition has been met other than the loop end condition.
- Continue
 - With “continue;” it is possible to **skip the rest of the commands** in the current loop and start from the top again.



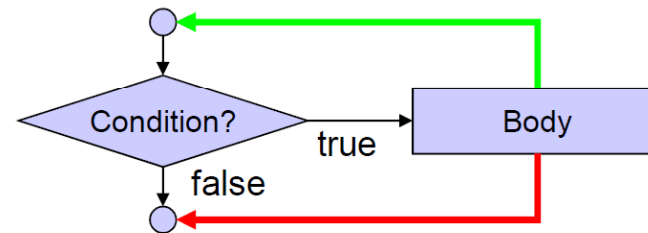
STRUCTURED JUMP STATEMENT

- break statement in **switch** statement

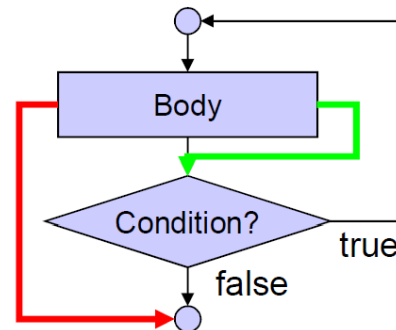


STRUCTURED JUMP STATEMENT

- break and continue in **while** loop



- break and continue in **do-while** loop



→ control flow with **break**

→ control flow with **continue**



EXAMPLE:

```
○ int main ()
  { // Local variable declaration:
    int a = 10;

    // do loop execution
    do {
      if( a == 15)
      {
        // skip the iteration.
        a = a + 1;
        continue;
      }

      printf("value of a: %d\n", a);
      a = a + 1;
    }while( a < 20 );

    return 0;
  }
```

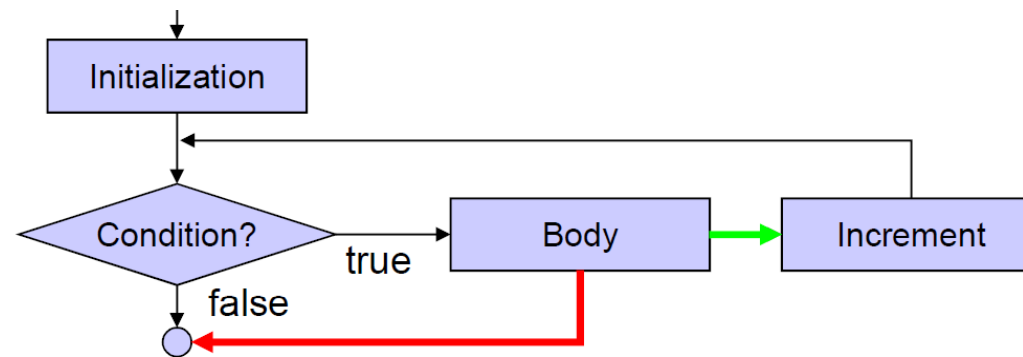
```
○ value of a: 10
  value of a: 11
  value of a: 12
  value of a: 13
  value of a: 14
  value of a: 16
  value of a: 17
  value of a: 18
  value of a: 19
```

```
○ 15 is missing, why?
```



STRUCTURED JUMP STATEMENT

- break and continue in **for** loop



→ control flow with **break**

→ control flow with **continue**



ASSIGNMENT 3

- Guess a Number
 - Deadline : 07/14/2014
 - Good practice for conditional statement, repetition statement and break statement.
 - Use function rand() to generate a random number.
 - Input/Output ?
 - Control Flow ?
 - Implementation ?
- Name your files **guess.c**, **guess.txt**, and **guess.script**
- Make sure your program is free of warning
 - Use `-Wall` option to show all warnings.



RAND() : GENERATE A RANDOM NUMBER

- Example :

```
#include <stdio.h>
#include <stdlib.h>      /* for rand() and srand() */
#include <time.h>       /* for time() */

int main(void)
{
    /*variable declaration*/
    ...
    /*initialize the random number generator with the
    current time*/
    srand(time(NULL)) ;
    ...
    /*generate a random number within the bound*/
    rand_num = (rand() %bound );
    ...
}
```

