

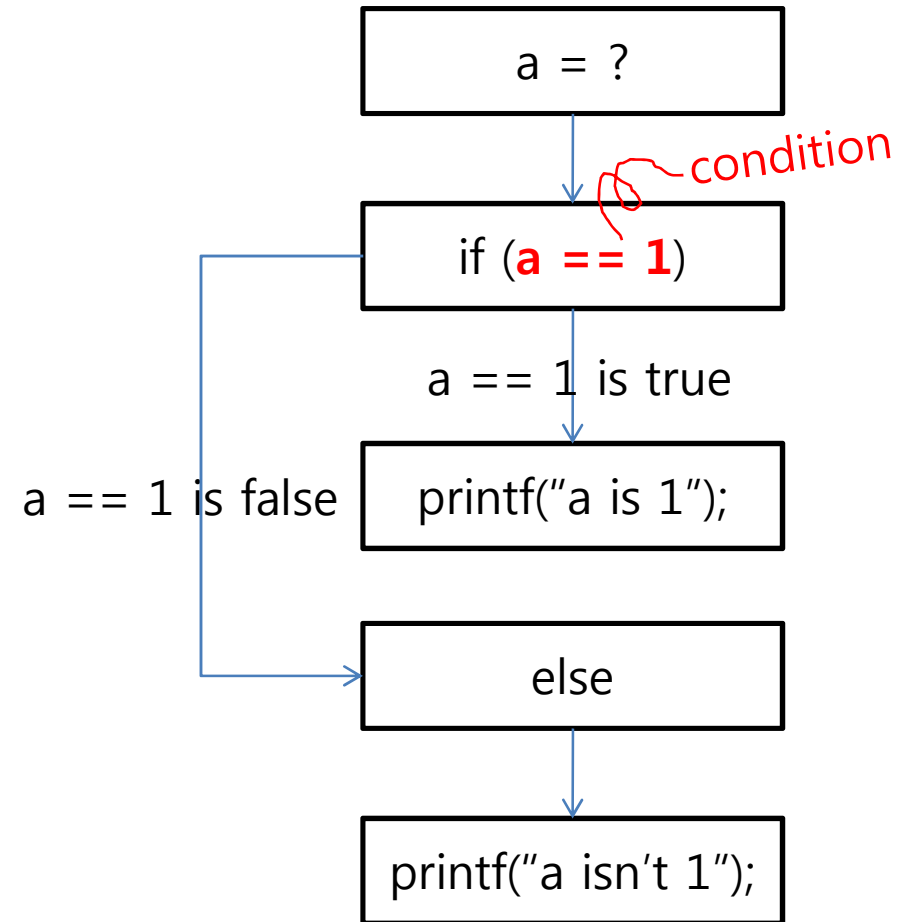


# **| Basis and Practice in Programming** week6



# If Statement (1/2)

- If-else statement
  - Control flow statement
  - Controlled by given condition
- Nested if statement
  - If in another if scope



# If Statement (2/2)

```
/* practice 1 : nested if statement exercise*/
#include <stdio.h>

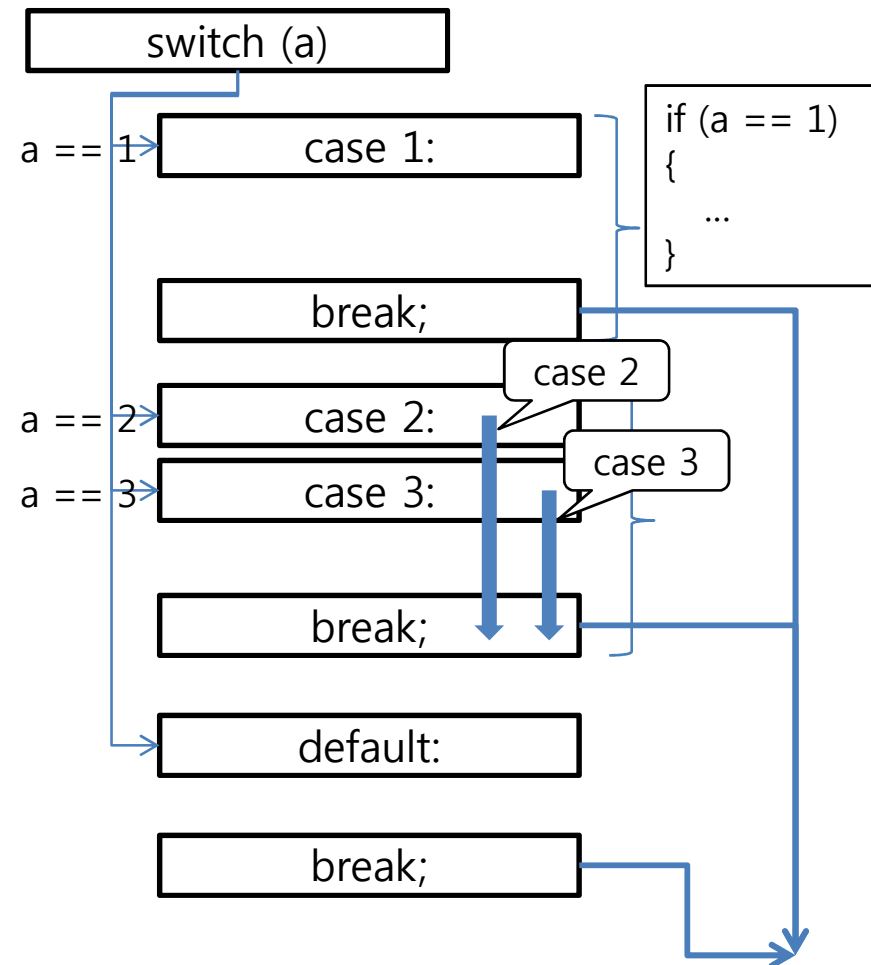
int main(void)
{
    int a;
    scanf("%d", &a);

    if (a > 10) {
        if (a < 20) {
            printf("a is bigger than 10 and smaller than 20\n");
        } else {
            printf("a is bigger than 20\n");
        }
    } else {
        printf("a is smaller than 10\n"); // condition is false
    }

    return 0;
}
```

# Switch statement

- Switch – Case
  - Each case statements must be ended by break
  - Default statement is executed when no matched case is in switch context



# Switch statement

- Switch – Case

```
/* practice 2 : if to switch
#include <stdio.h>

int main(void)
{
    char a;
    scanf("%c", &a);

    if (c == 'm' || c == 'M')
        printf("Morning\n");
    else if (c == 'a' || c == 'A')
        printf("Afternoon\n");
    else if (c == 'e' || c == 'E')
        printf("Evening\n");
    else
        printf("Error\n");

    return 0;
}
```

```
/* practice 3 : switch
#include <stdio.h>

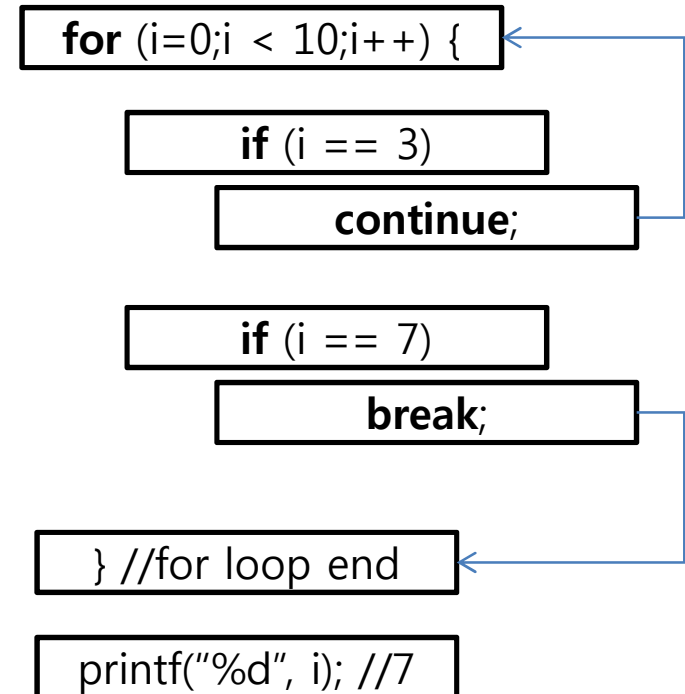
int main(void)
{
    int a;
    scanf("%c", &a);

    switch(a) {
        case 'm':
        case 'M':
            printf("Morning\n"); break;
        case 'a':
        case 'A':
            printf("Afternoon\n"); break;
        case 'e':
        case 'E':
            printf("Evening\n"); break;
        default:
            printf("Error\n");
    }

    return 0;
}
```

# Break/Continue

- Break
  - Used to escape from loop
- Continue
  - Used to skip this iteration



# Break/Continue

```
/* practice 4 : break and continue
#include <stdio.h>

int main(void)
{
    int i;

    for (i = 0; i < 10; i++) {
        if (i == 5) {
            printf ("continue\n");
            continue;
        }

        printf("%d's iteration\n", i);

        if (i == 8) {
            printf ("break\n");
            break;
        }
    }
    printf ("last i's value is %d\n", i);

    return 0;
}
```

```
/* practice 5 : break and continue
#include <stdio.h>

int main(void)
{
    int i = 0;

    for (;;) {
        i++;

        if (i > 10)
            break;

        continue;
        printf("%d's iteration\n", i);
    }

    printf ("last i's value is %d\n", i);

    return 0;
}
```

# Goto statement

- Goto statement
  - Unconditional jump to “label”
  - Because of program’s complexity, this statement is not recommended

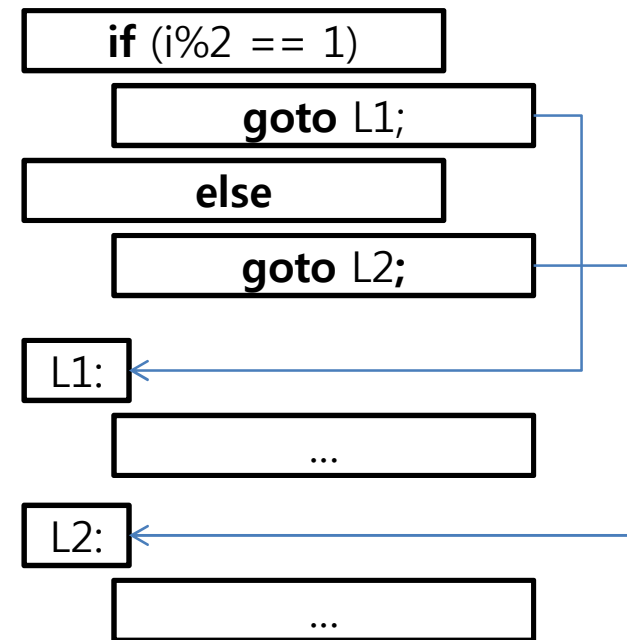
```
/* practice 6 : goto statement
#include <stdio.h>

int main(void)
{
    int i = 0;

loop:
    printf ("%dW's iterationWn", i);
    i++;

    if (i < 10)
        goto loop;

    return 0;
}
```





# Function

- Function
  - User defined operation
- Function definition

```
<type> func_name (<type> arg1, ...)  
{  
    Statements //function body  
    return result;  
}
```

```
int add(int x, int y)  
{  
    return x + y;  
}
```

```
int main(void)  
{  
    int result = add(5, 4);  
    printf("%d + %d = %d", 5, 4, result);  
    return 0;  
}
```

# Function

- Void function
  - Functions that do not have return type
  - Can have arguments

```
void func (<type> arg...)  
{  
    statements;//function body  
}
```

```
void print (char *str)  
{  
    printf("%s\n", str);  
}
```

# Function

```
/* practice 7 : functions
#include <stdio.h>
int add(int x, int y) {
    return x + y;
}

int sub(int x, int y) {
    return x - y;
}

void result_print(int result) {
    printf("result is %d\n", result);
}

int main(void) {
    result_print(add(10, 4));
    result_print(sub(10, 3));

    return 0;
}
```

# Exercise

- Alphabet print (Due date : Today's 11:59 PM)
  - Enter one number
  - Prints alphabets as much as input number
  - If input is odd number, prints alphabet on odd number position
  - If input is even number, prints alphabet on even number position
  - If input is bigger than printable alphabet length (>13), print "error"

# Exercise

---

3

8

121

ace

bdfhjlnp

error