Computer Programming
Modularity and Abstraction in C

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순서

- Homework 2 설명 (생략)
- Modularity & Abstraction w/ C Examples
  - Modular Software Design
- Q&A
**Pointer 기본**

**Pointer Operators**

- `&`: ‘Address of’ Operator
  - Get the address of the variable
- `*`: ‘Indirect’ Operator
  - Get the value at the address

```
p=&var;
*p = 3;
```

**Result**

```
3
var
```
```
p
```
**Pointer Example**

```c
int i, j, *p1, *p2;
i = 7;
p1 = &i;
printf("%d \n", *p1);
printf("%d \n", *&i);
j = 10;
p2 = &j;
*p1 = 3;
*p2 = *p1;
printf("%d, %d \n", i, j);
printf("%x, %x \n", &i, p1);
```

- **Result**

```
7
7
3, 3
bffffffc98, bffffffc98
```
Self-Referential Structure

Structure w/ a Pointer Pointing to a Structure of the Same Type

```c
struct node {
    int data;
    struct node *next;
};
```

Example

```c
struct node a, b;
a.data = 1;
b.data = 2;
a.next = b.next = NULL; /* Pointing to nothing */
a.next = &b;
printf("%d \n", a.next->data);
```
Modular Software Design

Standardized Software Design & Development

Example of Modular Design

Phone Software

- Browser Module
- MMS Module
- DRM Module

Digital Rights Management

Multimedia Messaging Service

provide services

as for services, etc.