



ข้อมูลแบบแจกแจง Enumeration Type

Declaration Examples

```
enum temps {  
    zero = 0,  
    freeze = 32,  
    boil = 220  
};  
  
enum fruit { apple = 8, pineapple,  
             pear = 3, peach, lemon  
};  
  
enum {Green, White, Brown, Black};
```



The enumeration type

- Set of named integer constants
- The named integer constants are called the "enumeration set"
- The values in an enumeration set don't need to be sequential
- declared by the "enum" keyword
 - `enum tag_name {list of named integer constants};`
 - `tag_name` is a type specifier, such as
`enum day {sunday, monday, tuesday, wednesday,
thursday, friday, saturday};`



Creating a variable of enumeration type

```
1. enum tag_name variable list;  
   - enum temps water, gas;  
   - enum fruit myfavor = peach;  
  
2. enum {list of named integer constants} variable list;  
   - enum { Green, White, Brown, Black } color;  
  
3. enum tag_name {list of named integer constants} variable list;  
   - enum day {sunday, monday, tuesday, wednesday,  
               thursday, friday, saturday  
               } today, tomorrow;  
  
/*possible values must come from type specifier */  
today = friday;  
tomorrow = saturday;  
if (today == tomorrow+1) ...
```

Renaming type name with typedef

- typedef *ชื่อชนิดข้อมูลเดิม* *ชื่อชนิดข้อมูลใหม่*
 - typedef int Integer;
Integer x;
 - typedef enum fruit Fruits;
Fruits myfavor = peach;
 - typedef enum {Green, White, Brown, Black} Color;
Color background, text;

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Example I

```
/* Compute the next day*/
enum day {sun, mon, tue, wed, thu, fri, sat};
typedef enum day Day;

Day FindNextDay(Day d)
{
    Day next_day;
    switch (d) {
        case sun : next_day = mon; break;
        case mon : next_day = tue; break;
        case tue : next_day = wed; break;
        case wed : next_day = thu; break;
        case thu : next_day = fri; break;
        case fri : next_day = sat; break;
        case sat : next_day = sun;
    }
    return (next_day);
}
```

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Example II

```
/* Function to return number of days in a given month
 * Assume February has 28 days.
 */
enum month {jan = 1, feb, mar, apr, may, jun, jul, aug,
            sep, oct, nov, dec
};
typedef enum month Month;
int DayInMonth (Month m)
{
    switch (m) {
        case jan :
        case mar :
        case may :
        case jul :
        case aug :
        case oct :
        case dec : return 31;
        case apr : case jun : case sep : case nov : return 30;
        case feb : return 28;
    }
}
```

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แบบฝึกคิด (ห้ามใช้ตัวแปรรชด)

- จงเขียนโปรแกรมเพื่อพิมพ์ ปฏิทินหนึ่งเดือน ตามที่ผู้ใช้ต้องการ โดยระบุ เดือนและปีค.ศ. ที่ต้องการพิมพ์ปฏิทิน เช่น

Enter month number: 13

Month number be between 1 and 12, please re-enter: 2

Enter year: 11

February, 2011

| S | M | T | W | Th | F | S |
|----|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | | | | | |

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