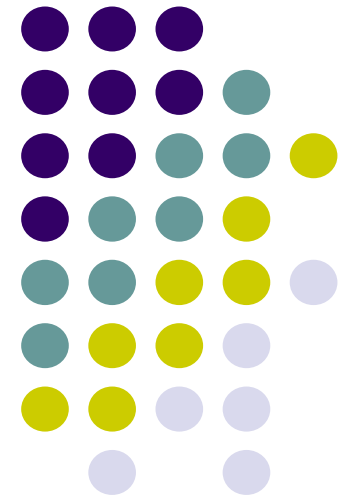
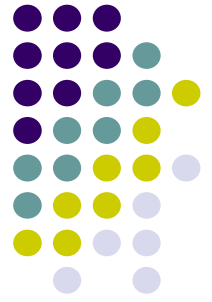


CS-TA HW14

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Date : 2008/1/4





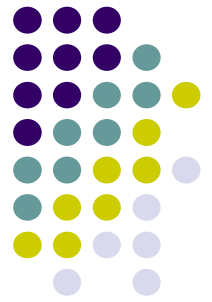
HW14_1

- (From: Exercise 1 on P.321)
Consider the following function: `int ascVal(size_t i, const char* p)`

```
{  
  // print the ASCII value of the char  
  if (!p || i > strlen(p))  
    return -1;  
  else  
    return p[i];  
}
```
- Write a program that will call this function through a pointer and verify that it works.
- You'll need an `#include` directive for the `<cstring>` header in your program to use the `strlen()` function.

HW14_1 (Cont.)

strlen(char *)



- 程式碼

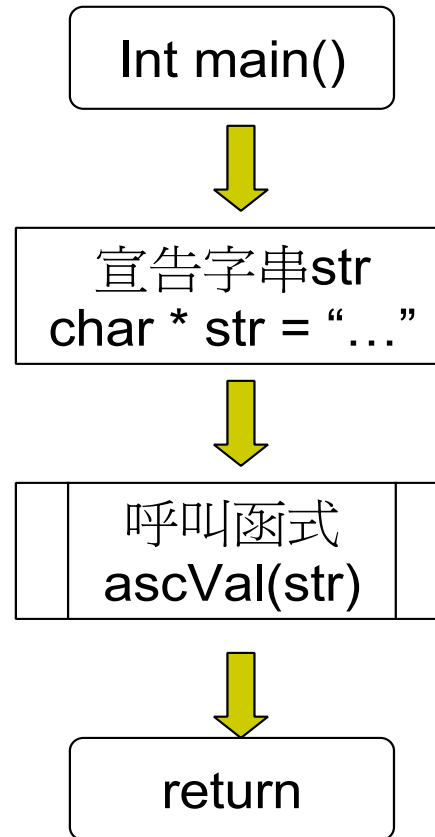
- ```
char * str1 = "123456789";
cout << strlen(str1) << endl;
char * str2 = "123456789\0";
cout << strlen(str2) << endl;
char * str3 = "123456789 \0";
cout << strlen(str3) << endl;
```

- 執行結果

- ```
9  
9  
10
```

HW14_1 (Cont.)

Flow chart

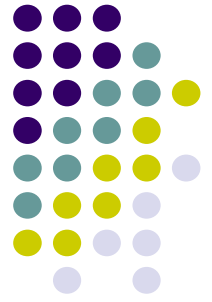


HW14_1 (Cont.)

Result



```
C:\Documents and Settings\user\桌面\HW14\HW... - [ ] X
Source string:Testing for the ASCII
0:T<84>
1:e<101>
2:s<115>
3:t<116>
4:i<105>
5:n<110>
6:g<103>
7: <32>
8:f<102>
9:o<111>
10:r<114>
11: <32>
12:t<116>
13:h<104>
14:e<101>
15: <32>
16:A<65>
17:S<83>
18:C<67>
19:I<73>
20:I<73>
21: <0>
22: <-1>
23: <-1>
24: <-1>
25: <-1>
26: <-1>
27: <-1>
28: <-1>
29: <-1>
請按任意鍵繼續 . . .
```

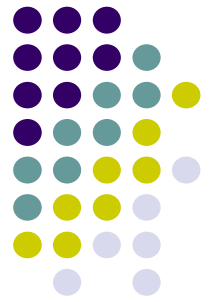


HW14_2

- (From: Exercise 2 on P.322)
Write a family of **overloaded** functions called `equal()`, which take two arguments of the same type, returning 1 if the arguments are equal, and 0 otherwise.
- Provide versions having `char`, `int`, `double`, and `char*` arguments. (Use the **`strcmp()`** function from the runtime library to test for equality of strings.
- If you don't know how to use `strcmp()`, search for it in the online help. You'll need an `#include` directive for the **`<cstring>`** header file in your program.) Write test code to verify that the correct versions are called.

HW14_2 (Cont.)

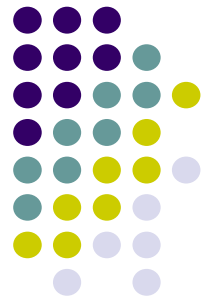
strcmp(char *, char *)



- 程式碼
 - ```
char * str1 = "123456789\0";
char * str2 = "987654321\0";
cout << "str1 = " << str1 << "\t";
cout << "str2 = " << str2 << endl;
cout << "strcmp = " << strcmp(str1, str2) << end
```
- 執行結果
  - ```
str1 = 123456789      str2 = 987654321  
strcmp = -1
```

HW14_2 (Cont.)

strcmp(char *, char *)



- 程式碼

- ```
char * str3 = "ABCDEFGHGIJK\0";
char * str4 = "ABCDEFGHGIJK\0";
cout << "str3 = " << str3 << "\t";
cout << "str4 = " << str4 << endl;
cout << "strcmp = " << strcmp(str3, str4) << end
```

- 執行結果

- ```
str3 = ABCDEFGHIJK      str4 = ABCDEFGHIJK  
strcmp = 0
```


HW14_2 (Cont.)

Overloaded functions equal()



int equal(p1, p2)

int equal(int i1, int i2)

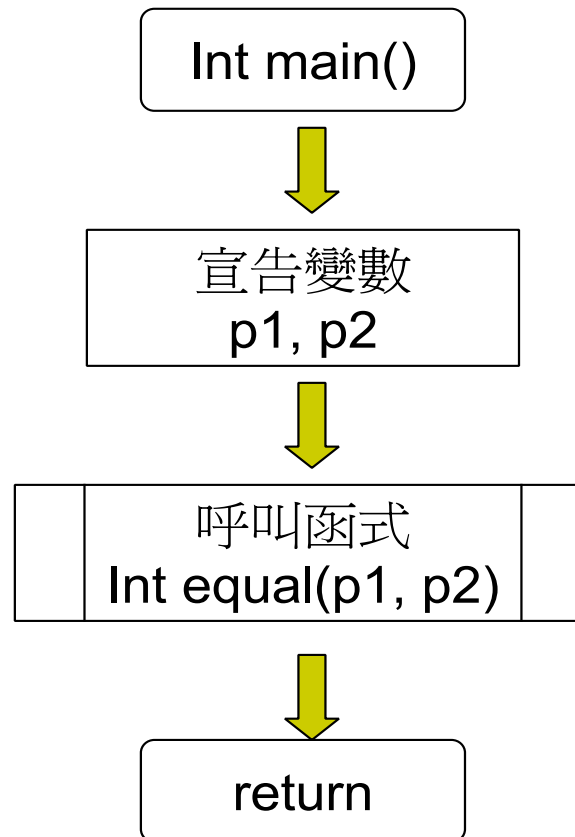
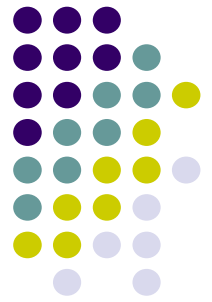
int equal(char c1, char c2)

int equal(double d1, double d2)

int equal(char * str1, char * str2)

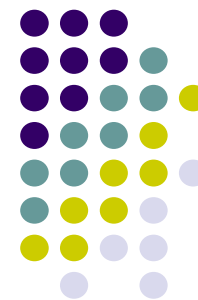
HW14_2 (Cont.)

Flow chart



HW14_2 (Cont.)

Result



```
C:\Documents and Settings\user\桌面\HW14\HW14_2.exe
檢查字元 <c1 = t> <c2 = a>:
equal<c1, c2> = 0
檢查字元 <c1 = t> <c2 = t>:
equal<c1, c2> = 1

檢查整數 <i1 = 0> <i2 = 10>:
equal<i1, i2> = 0
檢查整數 <i1 = 30> <i2 = 30>:
equal<i1, i2> = 1

檢查雙倍精準 <d1 = 0.123457> <d2 = 9.87654>:
equal<d1, d2> = 0
檢查雙倍精準 <d1 = 3.14159> <d2 = 3.14159>:
equal<d1, d2> = 1

檢查字串 <str1 = string 1> <str2 = string 2>:
equal<str1, str2> = 0
檢查字串 <str1 = s t r i n g > <str2 = s t r i n g >:
equal<str1, str2> = 1

請按任意鍵繼續 . . .
```