

# 系統程式設計

## Lab7 setjmp/longjmp

學號:411410005

姓名:

### 1. Where are the errors located?

- i) [spta@embedded.cs.ccu.edu.tw](mailto:spta@embedded.cs.ccu.edu.tw) no error
- ii) [twetrewt.terthbbb.com.tw](mailto:twetrewt.terthbbb.com.tw) there's no @
- iii) [spta@embed@ded.cs.cc@u.edu.tw](mailto:spta@embed@ded.cs.cc@u.edu.tw) several @
- iv) [pv#pig@hotmail.com](mailto:pv#pig@hotmail.com) # at 2
- v) [pvpig@hotmail\\*.com](mailto:pvpig@hotmail*.com) \* at 9
- vi) [aaawww@ccu.cs..edu.tw](mailto:aaawww@ccu.cs..edu.tw) .. at 13
- vii) [EA.EA@ccucsedutw](mailto:EA.EA@ccucsedutw) no . after @

### 2. What is the error message format?

(you must not print any message after you print error message)

```
if((i = setjmp(jmpbuffer)) != 0){
    if (i == 1)
        printf("Email format error: at least one @ \n");
    else if(i == 2)
        printf("Email format error: more than one @ \n");
    else if(i==3)
        printf("Email format error: # is not allowed.\n");
    else if(i==4)
        printf("Email format error: * is not allowed\n");
    else if(i==5)
        printf("Email format error: .. is not allowed\n");
    else if(i==6)
        printf("Email format error: no . after @\n");
    //write your code here
}
```

### 3. How did you use the setjmp/longjmp function?

Use longjmp to jump to the place of setjmp and print the error message according to the return value of the longjmp.

```

void compare_at(char *str)
{
    int counter = 0;
    char*  cptr;
    char*  temp;
    if((cptr = strchr(str, '@')) == NULL)
        longjmp(jmpbuffer, 1); //at least one @
    temp = cptr;
    while((cptr = strchr(temp, '@')) != NULL)
    {
        printf("@ found at %ld\n", cptr-str+1);
        counter++;
        temp = cptr+1;
    }
    if(counter > 1)
        longjmp(jmpbuffer, 2); //more than one @
    compare_sharp(str);
    return;
}

void compare_sharp(char *str)
{
    char *cptr;
    //write your code here
    if((cptr = strchr(str, '#')) != NULL)
        longjmp(jmpbuffer, 3); //# is not allowed
    compare_asterisk(str);
    return;
}

void compare_asterisk(char *str)
{
    char *cptr;
    //write your code here
    if((cptr = strchr(str, '*')) != NULL)
        longjmp(jmpbuffer, 4); /* is not allowed

    compare_doubleDot(str);
    return;
}

```

```

78 void compare_asterisk(char *str)
79 {
80     char *cptr;
81     //write your code here
82     if((cptr = strchr(str, '*')) != NULL)
83         longjmp(jmpbuffer, 4); /* * is not allowed
84
85     compare_doubleDot(str);
86     return;
87 }
88 void compare_doubleDot(char *str)
89 {
90     char *pch;
91     pch = strstr(str, "..");
92     if (pch != NULL)
93         longjmp(jmpbuffer, 5); //.. is not allowed
94     compare_dot(str);
95     return;
96 }
97 void compare_dot(char *str)
98 {
99     char *cptr;
100    //write your code here
101    cptr=strchr(str, '@');//find @
102    if((cptr = strchr(cptr, '.')) == NULL)
103        longjmp(jmpbuffer, 6); //no . after @
104    return;
105 }
106

```

#### 4. Final result.

Please attach screenshot !

```

● Lab7_example $ cd "/home/fre930727/workspace/sp/Lab7/Lab7
xample/" && gcc lab7_stu.c -o lab7_stu && "/home/fre93072
workspace/sp/Lab7/Lab7_example/"lab7_stu
-----
spta@embedded.cs.ccu.edu.tw
@ found at 5
valid email address!
-----
twetrewt.terthbbb.com.tw
Email format error: at least one @
-----
spta@embed@ded.cs.cc@u.edu.tw
@ found at 5
@ found at 11
@ found at 21
Email format error: more than one @
-----
pv#pig@hot#mail.com
@ found at 7
Email format error: # is not allowed.
-----
pvpig@hot*mail.com
@ found at 6
Email format error: * is not allowed
-----
aaawww@ccu.cs..edu.tw
@ found at 7
Email format error: .. is not allowed
-----
EA.EA@ccucsedutw
@ found at 6
Email format error: no . after @
○ Lab7_example $ █

```