

國立屏東大學 資訊工程學系 程式設計(二)

作業14

turnin code **c.hw14**

due date: **May 6, 11:30AM**

1. 參考4/29課堂示範的程式

設計一個C語言程式名為stringBox.c可進行10個20個字元以內的字串操作。在你的程式中，必須宣告一個指標永遠指向目前字元數最長的字串，如果一樣時，則列出最後加入的字串。程式執行時，可接受使用者命令進行相關操作，包含：

1. l 列示目前已有的字串
2. i 新增字串(字串中不會有空白字元)
3. m 列示字元數最多的字串(若字元數相同時，則列出最後新增的字串)
4. d 刪除字串(從1開始)
5. e 清空整個盒子
6. q 結束程式的執行

程式執行結果參考：

```
[9:19 user@ws hw14] ./a.out
[command] l
-empty-
[command] m
-null-
[command] q
-bye-
[9:19 user@ws hw14] ./a.out
[command] l
-empty-
[command] i
string=? Happy
[command] l
Happy-->end
[command] i
string=? birthday
[command] i
string=? to
[command] i
string=? you
[command] l
Happy-->birthday-->to-->you-->end
[command] m
The string with maximum length is birthday.
[command] i
```

```
string=? abcdefghijk
[command] m
The string with maximum length is abcdefghijk.
[command] i
string=? aaa
[command] i
string=? bbb
[command] i
string=? ccc
[command] i
string=? ddd
[command] i
string=? eee
[command] l
Happy-->birthday-->to-->you-->abcdefghijk-->aaa-->bbb-->ccc-->ddd-->eee-
->end
[command] i
out of space!
[command] m
The string with maximum length is abcdefghijk.
[command] d
which one? 5
[command] l
Happy-->birthday-->to-->you-->aaa-->bbb-->ccc-->ddd-->eee-->end
[command] m
The string with maximum length is birthday.
[command] i
string=? fff
[command] l
Happy-->birthday-->to-->you-->aaa-->bbb-->ccc-->ddd-->eee-->fff-->end
[command] d
which one? 8
[command] l
Happy-->birthday-->to-->you-->aaa-->bbb-->ccc-->eee-->fff-->end
[command] d
which one? 8
[command] d
which one? 8
[command] l
Happy-->birthday-->to-->you-->aaa-->bbb-->ccc-->end
[command] d
which one? 8
out of range!
[command] e
[command] l
-empty-
[command] q
-bye-
[9:19 user@ws hw12]
```

可參考4/29日上課講解

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    int quit=0;
    int box[10];
    int temp;
    int index=0;
    char cmd;
    int *max;

    while(!quit)
    {
        printf("[command]");
        scanf(" %c", &cmd);

        switch(cmd)
        {
            case 'l':
                if(index==0)
                {
                    printf("-empty-\n");
                }
                else
                {
                    for(temp=0;temp<index;temp++)
                    {
                        printf("%d-->", box[temp]);
                    }
                    printf("end\n");
                }
                break;
            case 'i':
                if(index==10)
                {
                    printf("out of space!\n");
                }
                else
                {
                    printf("value=? ");
                    scanf(" %d", &temp);
                    box[index]=temp;

                    if(index==0)
                    {
                        max=&box[index];
                    }
                }
            }
        }
    }
}
```

```
    }
    else
    {
        if(box[index]> *max)
        {
            max=&box[index];
        }
    }
    index++;
}
break;
case 'm' :
    if(index==0)
        printf("-null-\n");
    else
        printf("The maximum value is %d.\n", *max);
    break;
case 'q' :
    quit=1;
    printf("-bye-\n");
    break;
}
}
}
```

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