

浙江大学 2014 - 2015 学年夏季学期

《C 程序设计专题》课程期末考试题参考答案

课程号: 211Z0050, 开课学院: 计算机学院

考试试卷: A 卷、B 卷 (请在选定项上打)

考试形式: 闭、开卷 (请在选定项上打)，允许带 / 入场

考试日期: 2015 年 07 月 03 日, 考试时间: 120 分钟

试题号	一	二	三	四	总分	
满分	14	30	30	26		
得分					统分人 1	
阅卷人					统分人 2	

Section 1: Single Choice(2 marks for each item, total 14 marks)

- 1 C 2 A 3 B 4 B 5 D
 6 A 7 C

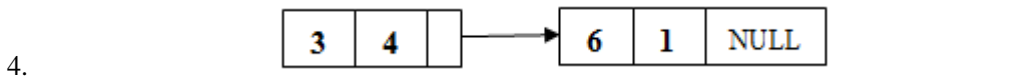
Section 2: Read the following problems and answer questions (6 marks for each item, total 30 marks)

1. (1) _____ typedef char *STRPA[10];

(2) _____ int (*pf)(void *p, double a, double b);

2. _____ 123321

3. _____ ACDEPR



5. (1) 2->4->6
 (2) 两个错误:
 i. 比较大小时, 应为 $I1->val < I2->val$
 ii. while 循环退出时, 对为合并的结点没有处理。

Section 3: According to the specification, complete each program (3 marks for each blank, total 30 marks)

- | | |
|---|------------------------------|
| (1) _____ sizeof(ListNode) | (2) _____ p1->next |
| (3) _____ p | (4) _____ head |
| (5) _____ cancelTimer(0) | (6) _____ timerEventCallback |
| (7) _____ startTimer(0, 5000) | (8) _____ a, b, c |
| (9) _____ sizeof(CMDS)/sizeof(CMDS[0])或 3 | (10) _____ CMDS[k]() |

Section 4: Algorithms design (13 marks for each item, total 26 marks)

```

1.
#include <stdio.h>
void ListPermutations(int a[],int n);

main()
{
    int a[]={1,2,3,4,5};
    ListPermutations(a,3);
}
void PermuteWithFixedPrefix(int a[], int k, int n)
{
    int i;
    if (k == n) {
        for(i=0;i<n;i++) printf("%d ", a[i]);
        printf("\n");
    } else {
        for (i = k; i < n; i++) {
            Exchange(a, k, i);
            PermuteWithFixedPrefix(a, k + 1, n);
            Exchange(a, k, i);
        }
    }
}
void Exchange(int a[], int p1, int p2)
{
    int tmp;
    tmp = a[p1]; a[p1] = a[p2]; a[p2] = tmp;
}
void ListPermutations(int a[], int n)
{
    PermuteWithFixedPrefix(a, 0, n);
}

```

2.

(1) (3 分) typedef struct { int num; int den; } rationalT;

(2) (5 分)

```
rationalT simplifyRational(rationalT r)
{
    rationalT t;
    int x,y,z;

    x=r.den; y=r.num;
    while(x%y!=0) {
        z = x % y;
        x = y;
        y = z;
    }
    t.num = r.num / y;
    t.den = r.den / y;
    return t;
}
```

(3) (5 分)

```
rationalT averageRationals(rational r[], int n)
{
    int i;
    rationalT t = r[0], a, b;

    for(i=1; i<n; i++) {
        a=t; b=r[i];
        t.num = a.num * b.den + a.den* b.num;
        t.den = a.den * b.den;
    }
    t.den /= n;
    t = simplifyRational(t);
    return t;
}
```