# 浙江大学 2015－2016 学年冬学期

## 《程序设计基础》课程期末考试试卷

课程号：__211Z0040___， 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：_2016_年_01_月_19_日，考试时间：_120_分钟

**诚信考试，沉着应考，杜绝违纪.**

考生姓名：_____学号：_____所属院系：_____

**(注意：答题内容必须写在答题卷上，写在本试题卷上无效)**

***Section 1: Single Choice(2 marks for each item, total 20 marks)***

1. According to the C syntax, the group _____ are all correct identifiers among the following groups of notations.
   A. w, WORD, viod  B. _if, _12, FILE  C. For, while, in  D. a$, b1, _a
2. Given: ***char b='B';*** , the value of expression ***'a'<b<'z'*** is _____.
   A. 0  B. 1  C. -1  D. unknown
3. After executing the following code fragment, the output is _____.
   ***int s=0,i,j ; for(i=1,j=6; ++i!=--j; ) s++; printf("%d",s);***
   A. 2  B. 3  C. 4  D. None of above
4. Given: ***int a=3,b=4,c=5***; the value of expression ***c>b>a && !c<b ? 2:1*** is _____.
   A．0  B．1  C．2  D．syntax error
5. For the declarations: ***char *s, str[10];***, statement _____ is completely correct.
   A．strcpy(s, "hello");  B．str="hello"+1;  C．s=*&(str+1);  D．s=str+1;
6. In the following expressions, _____ is meanless(无意义).
   A．"hello,world"-"hello"  B. 'w'-'h'  C．"hello"+10/4  D. 'a'+3/2
7. Given the function definition:
   ```
   int f(int k)
   {
       int a=2;
       return k*a;
   }
   ```
   The function-call _____ of the following is NOT correct.
   A. f(0);  B. int k=2; f(k);  C. f();  D. f(f(2));
8. Given the following code fragment, the loop condition ***str[i]!='\0'*** could be replaced by expression _____.
   ```
   char str[20]="hello, world";
   for (i = 0; str[i] != '\0'; i++) putchar(str[i]);
   ```
   A．str[i]  B．i < 20  C．!(str[i] = '\0')  D．i <= 20

9. Which description in the following is correct? _____ .
   A. The accessing way of ***p[1]*** is illegal, if ***p*** is not an array name.
   B. ***p[0]*** is equivalent to ****p***, if ***p*** is a pointer.
   C. The accessing way of ***&p*** is illegal, if ***p*** is a variable of pointer.
   D. With regard to a variable ***p***, ***&*p*** is equivalent to ****&p***, and both of them are legal.
10. In the following code fragments, _____ can NOT be compiled correctly.

A.
```
void f(int a)
{
    int a=6;
}
```
B.
```
void f(int a)
{
    if ( a<0 ) { int a=6; }
}
```
C.
```
int a;
void f(int a)
{
    a = 6;
}
```
D.
```
void f(int a)
{
    a=6;
}
```

## *Section 2: Fill in the blanks（2 marks for each item, total 30 marks）*

1. The value of the expression ***10+5/4-5>=7-5%4*** is _____.
2. Given the ASCII value of character ***'a'*** is ***97***, ***'A'*** is ***65***, and ***'0'*** is ***48***. For the variable declaration: ***char c='B'+'3'-1;***， the variable ***c*** stands for the character _____.
3. Write a statement: it is used to write a letter, which is read from a file pointer ***infp*** and then converted to a lower case (小写) letter, into the file pointer ***outfp***, which points to an output file. _____.
4. Given the declaration: ***char s[10]="12345678";*** what will be the value of ***strlen(s)*** after executing ***strcpy(s+2,s+5);*** _____.
5. The following code fragment will output_____.
```
int x=10;
int f(int x)
{
    static int k = 0;
    x+=++k;
    return x;
}
int main()
{  printf("%d#%d#",x,f(f(1))); }
```
6. The following code fragment will output _____.
```
int x = 1, y = 2;
if(x>y);
    y = -y;
if(x<y)
    x = -x;
printf("%d#%d#", x, y);
```
7. The following code fragment will output _____.
```
char x[ ]= "hello,world\087654321";
printf("%d#%d#"，sizeof(x)，strlen(x+10));
```

8. The following code fragment will output _____.

```
char x=*("2016-01-19"+5), y='\0';
switch(!y) {
    case 0: printf("0#");break;
    case 1:
        switch(!x){
            case 0: printf("1#");break;
            case 1: printf("2#");break;
        }
    default: printf("3#");
}
```

9. The following code fragment will output _____.

```
char *a[5]={"Jan", "Feb","Mar","Apr","May"}, **p=a;
printf("%c#", *(++p)[1]);
printf("%s#", *(a+1)+2);
```

10. The output of the code below is _____.

```
char format[] = "No.%d%c";
printf(format, strlen(format), "abcde"[3]+1);
```

11. The following code fragment will output _____.

```
int i;
int main(void)
{
    int j=i;
    int i=2;
    printf("%d#%d#",i,j);
    return 0;
}
```

12. The output of the code below is _____.

```
char str[100]="ZhejiangU 1 3 5", s[10];
int n;
sscanf(str, "%s %*d %d %*d", s, &n);
printf("%s", &s[n]);
```

13. Write a statement of function-call, which could be used to open a new writable text file ***"text.txt"*** in the current file folder, and it is also readable. _____.
14. After executing the following code fragment, the values of variables ***m*** and ***n*** are _____.

```
int a=1, b=2, c=3, d=4, m=1, n=2, v;
v = (m=a>b)&&(n=c>d);
```

15. Given a function definition: ***void Init(int x, int y) {x=y=0;}*** , after executing the following code fragment, the output is _____.

```
int a = 1, b = 2;
Init(a, b);
printf("%d#%d#", a, b);
```

## *Section 3: Read each of the following programs and answer questions (5marks for each item, total 30 marks)*

1. When input:

   ***this is a test for C.you are right!<ENTER>***

   the following program will output_____.

```
#include <stdio.h>
int main()
{   char c;
    int state=0;

    while((c=getchar())!='\n') {
        if (state==0 && c>='a' && c<='z') {
            c= c-'a'+'A';
            state=1;
        }
        if (c=='.'||c=='!') state=0;
        putchar(c);
    }
    return 0;
}
```

2. When input:
   ***123423453456<ENTER>***

   the following program will output _____.

```
#include <stdio.h>
int main()
{
    char c;
    int cnt[10], i, max;

    for (i=0; i<10; i++) cnt[i] = 0;
    max = -1;
    scanf("%c", &c);
    while (c!='\n') {
        if (c>='0' && c<='9') {
            cnt[c-'0']++;
            if (cnt[c-'0']>max) max = cnt[c-'0'];
        }
        scanf("%c", &c);
    }
    printf("%d:", max);
    for (i=0; i<10; i++)
        if (cnt[i]==max) printf("%d#", i);

    return 0;
}
```

3. When input:
   ***-1f2<ENTER>***
   ***-1f2<ENTER>***

   the following program will output _____.

```
#include <stdio.h>
int f(char *s)
{
    int n=0;
```

```
    while (*s!='\0') {
        if ((*s>='0') && (*s<='9'))
            n = n*16+*s-'0';
        else if ((*s>='a') && (*s<='f'))
            n = n*16+*s-'a'+10;
        else return -1;
        s++;
    }
    return n;
}
int main()
{
    int i,n;
    char s[100];
    for (i=0; i<2; i++) {
        scanf("%s", s);
        if ((n=f(s+i))>=0)  printf("Yes! %d#", n);
        else printf("No!#");
    }
    return 0;
}
```

4. When input:

   ***I  am a student..... <ENTER>***

   the following program will output _____.

```
#include <stdio.h>
#include <string.h>
#define MAXBUFF 128

int getl(char line[], int nmax) {
   char c;
   int len = 0;
   while(((c=getchar())!='\n') && len<nmax-1)
      line[len++]=c;
   line[len]='\0';
   return len;
}
int compactB(char line[]) {
   int cursor=0,prevspace = 0,lcv=0;
   if(line[cursor]=='\0') return 0;
   do{
      if((line[cursor]==' ')&&prevspace)
         for(lcv=cursor;line[lcv];lcv++)
            line[lcv]=line[lcv+1];
      else
         prevspace=(line[cursor++]==' ');
   }while(line[cursor]);
   return cursor;
}
```

```
int compactC(char line[], char c) {
   int cursor=0,prevC = 0,lcv=0;
   do{
      if(!((line[cursor]==c)&&prevC)){
         line[lcv++]=line[cursor];
         prevC=(line[cursor]==c);
      }
   }while(line[cursor++]);
   return(lcv-1);
}

int main(void) {
   char buffer1[MAXBUFF];
   int len = getl(buffer1, MAXBUFF);
   len=compactB(buffer1);
   len=compactC(buffer1, '.');
   printf("%s", buffer1);
   return 0;
}
```

5. When input:
   ***4<ENTER>***
   ***2 3 4 1<ENTER>***
   ***5 6 1 1<ENTER>***
   ***7 1 8 1<ENTER>***
   ***1 1 1 1<ENTER>***
   The following program will output_____.

```
#include <stdio.h>
#define MAXN 10

int main()
{
    int n, i, j, a[MAXN][MAXN], sum=0;

    scanf("%d", &n);
    for (i=0; i<n; i++)
            for (j=0; j<n; j++)
                    scanf("%d", &a[i][j]);
    for (i=n-1; i>=0; i--)
            for (j=n-1; j>=0; j--)
                    if ((i==j) || (i+j==n-1)) sum += a[i][j];
    printf("%d", sum);
    return 0;
}
```

6. The following program will output_____.

```
#include <stdio.h>

char *f(char *p[])
{
    int i=0, j=0;
```

```
    static char s[10];

    while (p[i] != NULL){
        while (*p[i] != '\0') p[i]++;
        s[j++] = p[i][-1];
        i++;
    }
    s[j] = '\0';
    return s;
}

int main()
{
    char *ap[4]={"tin", "tango", "tip", NULL};
    puts(f(ap));
}
```

## *Section 4: According to the specification, complete each program (2 marks for each blank, total 20 marks)*

1. The following program read in some integer numbers and store them into an array, then output the number of negative integers and the sum of all positive integers.
   For example, when input 6 integers (-7 8 -9 -1 2 3) as: ***6 -7 8 -9 -1 2 3<ENTER>***
   the program will output：
   ***number:3***
   ***sum:13***
   Please complete the program.

```
#include <stdio.h>
int main()
{
    int i=0,count=0, sum=0, num;
    int *p;

    scanf("%d", &num);
    p=(int *)malloc(_____(1)_____);
    do {
        _____(2)_____;
        i++;
    } while (i<num);

    for (i=0; i<num; i++)
        if (_____(3)_____)  count++;
        else_____(4)_____;
    printf("number :%d\n", count);
    printf("sum: %d\n", sum);
    free(_____(5)_____);
    return 0;
}
```

2. Given the two files ***file1.txt*** and ***file2.txt,*** which contain an integer number sequence each in the increasing order（升序排列）. The following program will merge the two integer sequences into a sequence in the same order . Note that: the return value of the function ***fscanf()*** is the number of read integers; ***end1*** and ***end2*** indicate separately that whether the integers in the two files have been read over.
   For example: If ***file1.txt*** contains ***1 2 3*** and ***file2.txt*** contains ***0 2 5 6***, the output is: ***0 1 2 2 3 5 6***.

```
#include <stdio.h>

int  main()
{
      _______(6)_______;
      int n, m, end1=0,end2=0;

      if  ((fp1=fopen("file1.txt", "r")) == NULL || (_______(7)_______)) {
           printf("Cannot open files\n");
          return(-1);
      }
      if (fscanf(fp1, "%d", &n)!=1) end1=1;
      if (fscanf(fp2, "%d", &m)!=1) end2=1;
      while (_______(8)_______) {
           if (n>m) {
              printf("%d ", m);
              if (fscanf(fp2, "%d", &m)!=1) end2=1;
           }  else {
              printf("%d ", n);
              _______(9)_______;
           }
      }
       while (!end1) {
           printf("%d ", n);
           if (fscanf(fp1, "%d", &n)!=1) end1=1;
       }
       while (!end2) {
           printf("%d ", m);
           if (fscanf(fp2, "%d", &m)!=1) end2=1;
       }
       _______(10)_______;   /*close files*/
       return 0;
}
```