**2018年11月 C 语言程序设计 月考 Answer**

1. 单项选择题(每题3分，共18分)
2. If a variable alpha is accessible only within function F, then alpha is either

A) a global variable or a parameter of F.

B) **a local variable within F or a parameter of F.**

C) a global variable or an argument to F.

D) a local variable within F or an argument to F.

1. Given the function definition

void SomeFunc( ... )

{

float alpha;

...

}

which of the following statements about alpha is ***false***?

A) The memory allocated to alpha is deallocated when the function returns.

**B) A parameter in the function heading can also be named alpha.**

C) The value of alpha is undefined at the moment control enters the function.

D) alpha cannot be accessed directly from code outside the function.

1. Which of the following statements about global variables is true?

A) A global variable is accessible only to the main function.

B) A global variable is declared in the highest-level block in which it is used.

**C) A global variable can have the same name as a variable that is declared locally within a function.**

D) If a function contains a local variable with the same name as a global variable, the global variable takes precedence.

1. In the following function, the declaration of beta includes an initialization.

void SomeFunc( int alpha )

{

static int beta = 25;

...

}

Which of the following statements about beta is ***false***?

A) It is initialized once only, the first time the function is called.

B) It is initialized each time the function is called.

C) It cannot be reassigned a different value within the function.

D) a and c above

**E) b and c above**

1. What happens if a value-returning function with the prototype

float Average( int, int, int);

is called by using the following statement? (alpha and beta are int variables.)

Average(alpha, 34, beta);

A) The compiler issues a syntax error message.

**B) The function is executed, and the function value is discarded.**

C) The function is executed, and the function value is assigned to alpha.

D) The function is not executed, and the program halts with a run- time error message.

1. What is the output of the following code fragment? (All variables are of type int.)

limit = 8;

printf("H");

loopCount = 6;

do

{

printf("E");

loopCount++;

} while (loopCount <= limit);

printf("LP");

a. HLP

b. HELP

c. HEELP

**d. HEEELP**

e. none of the above

1. 填空题 (每题3 分，共 30分)
2. A function can be declared several times but can be defined only once. True/False\_\_\_\_\_\_\_\_\_\_\_. It is possible to supply different argument names every time a function is called. True/False\_\_\_\_\_\_\_\_\_\_\_. **True, True**
3. An int variable someInt contains a value from 0 through 9. Please write code to store the corresponding digit character into someChar of char type. **someChar = (char)someInt+’0’;**
4. Given the function definition

void Test( /\* in \*/ int alpha )

{

static int n = 5;

n = n + alpha;

printf(“%d ”, n);

}

what is the output of the following code? (Assume that Test has not been called previously.)

Test(20);

Test(30);

1. **55**
2. If the following function is called with a value of 73 for n, what is the resulting output?

void Func( /\* in \*/ int n )

{

if (n > 0)

{

Func(n / 5);

Printf(“%d”, n % 5);

}

}

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1. What is the value of variable firstInt in the following code fragment? (finished is a bool variable, and firstInt and secondInt are of type int.) \_\_\_\_\_\_\_\_\_\_\_ **7**

finished = false;

firstInt = 3;

secondInt = 20;

while (firstInt <= secondInt && !finished)

if (secondInt / firstInt <= 2)

finished = true;

else

firstInt++;

1. Please write all of relational operator in c\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **> >= < <= == !=**
2. Please write logical expression to determine whether the value of beta lies between 0 and 100. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 < beta && beta < 100**
3. Write the output of the code. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

alpha = 1;

beta = 2;

if (alpha < 2)

if (beta > 3)

printf("Hello");

else printf( "There"); output: **There**

1. After execute the following code, the value of variable **alpha** is\_\_\_\_\_\_\_\_\_\_19 int num;

int alpha = 10;

num = 4;

switch (num)

{

case 3 : alpha++;

case 4 : alpha = alpha + 2;

case 8 : alpha = alpha + 3;

default : alpha = alpha + 4;

}

1. The function islower(char ch) is included in the head file\_\_\_\_\_\_\_\_\_\_\_\_.< ctype.h>
2. 编程题 (每题13 分， 共 52分)
3. Please complete the following **RECURSIVE** function. （12分）



float Power( /\* in \*/ float x, /\* in \*/ int y )

{

}

**Answer:**

float Power ( /\* in \*/ float x, /\* in \*/ int n )

// Precondition: x != 0 && Assigned(n)

// Postcondition: Function value == x raised to the power n.

{

if( n == 0 ) // base case

return 1;

elseif ( n > 0 ) // first general case

return (x \* Power ( x , n - 1 ) ) ;

else // second general case

return (1.0 / Power ( x , - n ) ) ;

}

1. Please write a function to judge whether the number *num* is ascendant from left to right. -109≤ num ≤ 109

For example: 123 is ascendant; 1223 is ascendant; 1221 is not ascendant.

bool isAscendant(int num) // function prototype

**Answer:**

bool isAscendant(int num){

int pre,curr;

num = num>=0?num:-num;

pre = num%10;

num = num/10;

while(num>0){

curr = num%10;

num = num/10;

if(curr>pre)

return false;

pre = curr;

}

return true;

}

1. 写程序完成如下功能：周一至周五，中山北路校区停车场开往闵行校区的校车的发车时间为6:50、8:30、11:50、13:50、16:50、18:00、20:50；如果今天校车严格按上述时间表发车，告诉你现在的时间，请问现在离今天的下一班校车发车还有多少分钟？

【输入】现在的时间，格式为 HH:MM，其中 HH、MM 均为整数，且满足 0 ≤ HH ≤ 23，00 ≤ MM ≤ 59。

【输出】一个整数，表示现在离今天的下一班校车发车还有多少分钟。

如果今天已经没有下一班校车，则输出 -1。如果现在时间刚好为发车时间，则输出 0。

参考答案

#include <stdio.h>

int main() {

int h, m, now, ans = -1;

const int time1 = 6 \* 60 + 50,

time2 = 8 \* 60 + 30,

time3 = 11 \* 60 + 50,

time4 = 13 \* 60 + 50,

time5 = 16 \* 60 + 50,

time6 = 18 \* 60 + 0,

time7 = 20 \* 60 + 50;

scanf("%d:%d",&h, &m);

now = h \* 60 + m;

if(now <= time1) {

ans = time1 - now;

} else if(now <= time2) {

ans = time2 - now;

} else if(now <= time3) {

ans = time3 - now;

} else if(now <= time4) {

ans = time4 - now;

} else if(now <= time5) {

ans = time5 - now;

} else if(now <= time6) {

ans = time6 - now;

} else if(now <= time7) {

ans = time7 - now;

}

printf("%d",ans);

return 0;

}

1. 请编写程序统计并输出一段文字中大写字母开头的单词数。

例如：

【输入】

The C

programming language

【输出】

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#include <stdio.h>

#include <ctype.h>

#define IN 1 /\* inside a word \*/

#define OUT 0 /\* outside a word \*/

int main()

{

int c,nw, state;

state = OUT;

nw = 0;

while ((c = getchar()) != EOF)

{

if (c == ' ' || c == '\n' || c == '\t')

state = OUT;

else if (state == OUT)

{

state = IN;

if(isupper(c))

++nw;

}

}

printf("%d\n",nw);

return 0;

}