

# C Primer Plus 第六版中文版习题答案

## 第一章

1.

```
#include <stdio.h>
int main(void) {
    double inch, cm;

    printf("Please input the inches: ");
    scanf("%lf", &inch);
    cm = inch * 2.54;
    printf("%g cm\n", cm);

    return 0;
}
```

## 第二章

3.

```
#include<stdio.h>
int main(void)
{
    int days,years=21;

    days=years*365;
    printf("    我的年龄是  %d岁 ,  %d天\n",years,days);
    return 0;
}
```

4.

```
#include<stdio.h>
void jolly(void);
void deny(void);
```

```
int main(void)
{
```

```
jolly();
jolly();
deny();
return 0;
}
```

```
void jolly(void)
{
    printf("For he's a jolly good fellow!\n");
}
void deny(void)
{
    printf("Which nobody can deny!\n");
}
```

5.

```
#include<stdio.h>
void br(void);
void ic(void);
int main(void)
{
    br();
    printf(",");
    ic();
    printf("\n");
    ic();
    printf("\n");
    br();
    printf("\n");

    return 0;
}
```

```
void br(void)
{
    printf("Brazil,Russia");
}
void ic(void)
{
    printf("India,China");
}
```

6.

```

#include<stdio.h>
int main(void)
{
    int toes=10;
    int toes_2,toes2;
    toes_2=2*toes;
    toes2=toes*toes;
    printf("toes      是%d,toes  的两倍是  %d,toes  的平方是  %d\n",toes,toes_2,toes2);
    return 0;
}

```

8.

```

#include<stdio.h>
void one_three(void);
void two(void);
int main(void)
{
    printf("starting now\n");
    one_three();
}

```

```

void one_three(void)
{
    printf("one\n");
    two();
    printf("three\n");
    printf("done!\n");
}
void two(void)
{
    printf("two\n");
}

```

## 第三章

2.

```

#include<stdio.h>
int main(void)
{
    char ch;
    printf("please input a number:");
    scanf("%d",&ch);
}

```

```
printf("%c\n",ch);

return 0;
}
```

4.

```
#include<stdio.h>
int main(void)
{
    float a;
    printf("Enter a floating-point value: ");
    scanf("%f",&a);
    printf("fixed-point notation: %f\n",a);
    printf("exponential notation: %e\n",a);
    return 0;
}
```

5.

```
#include<stdio.h>
int main(void)
{
    int age;
    double seconds;

    printf("please input your age: ");
    scanf("%d",&age);
    seconds=age*3.156e7;
    printf("the corresponding seconds are: %e\n",seconds);

    return 0;
}
```

7.

```
#include<stdio.h>
int main(void)
{
    float inches,cms;
    printf("input your height(inch): ");
    scanf("%f",&inches);
    cms=inches*2.54;
    printf("your height(cm): %f\n",cms);
}
```

```
    return 0;
}
```

8.

```
#include<stdio.h>
int main(void)
{
    float pint,ounce,soup spoon,teaspoon,cup;

    printf("input the number of cups: ");
    scanf("%f",&cup);
    pint=cup/2;
    ounce=cup*8;
    soup spoon=ounce*2;
    teaspoon=soup spoon*3;
    printf("they are equivalent of:\n%f pint\n%f ounce\n%f soup spoons\n%f
teaspoons\n",pint,ounce,soup spoon,teaspoon);

    return 0;
}
```

## 第四章

1.

```
#include<stdio.h>
int main(void)
{
    char firstname[40],lastname[40];
    printf("Input your firstname: ");
    scanf("%s",firstname);
    printf("Input your lastname: ");
    scanf("%s",lastname);
    printf("Your name is %s,%s\n",firstname,lastname);

    return 0;
}
```

2.

```

#include<stdio.h>
#include<string.h>
int main(void)
{
    char name[40];
    int width;

    printf("Input your name: ");
    scanf("%s",name);
    width=strlen(name)+3;
    printf("%*s\n",width,name); // 输入的名和姓中间不能分隔

    return 0;
}

```

4.

```

#include<stdio.h>
int main(void)
{
    float height;
    char name[40];
    printf("Input your height(cm) and name: ");
    scanf("%f%s",&height,name);
    height=height/100;
    printf("%s, you are %.3fm tall\n",name,height);
    return 0;
}

```

5.

```

#include<stdio.h>
int main(void)
{
    float speed,size,time;
    printf("Input the download speed(Mb/s) and the file size(MB):\n");
    scanf("%f%f",&speed,&size);
    time=size/speed*8.0;
    printf("At      %.2f      megabits      per      second,      a      file      of      %.2f      megabytes\n",speed,size);
    printf("downloads in %.2f seconds.\n",time);
    return 0;
}

```

```
}
```

6.

```
#include<stdio.h>
#include<string.h>
int main(void)
{
    char firstname[40],lastname[40];
    printf("Input your firstname: ");
    scanf("%s",firstname);
    printf("Input your lastname: ");
    scanf("%s",lastname);
    printf("%s %s\n",firstname,lastname);
    printf("%*d %*d\n",

strlen(firstname),strlen(firstname),strlen(lastname),strlen(lastname));
    printf("%s %s\n",firstname,lastname);
    printf("%*d %*d\n",

-strlen(firstname),strlen(firstname),-strlen(lastname),strlen(lastname)
);
    return 0;
}
```

7.

```
#include<stdio.h>
#include<float.h>
int main(void)
{
    double a=1.0/3.0;
    float b=1.0/3.0;
    printf("%.6f  %.6f\n",a,b); // 左侧 double 型 右侧 float 型
    printf("%.12f,  %.12f\n",a,b);
    printf("%.16f,  %.16f\n",a,b);
    printf("DBL_DIG: %d\n",DBL_DIG);
    printf("FLT_DIG: %d\n",FLT_DIG);
    return 0;
}
```

8.

```

#include<stdio.h>
#define GALLON 3.758 //1 gallon=3.785 liters
#define MILE 1.609 //1 mile=1.609 kilometers
int main(void)
{
    float gallon,mile;
    printf("Input miles and gallons: ");
    scanf("%f%f",&mile,&gallon);
    printf("Miles per gallon: %.1f\n",mile/gallon);
    printf("Litre per 100 kilometers: %.1f\n",
    gallon*GALLON/(mile*MILE)*100);
    return 0;
}

```

## 第五章

1.

```

#include<stdio.h>
#define H_P_M 60 //1h=60min
int main(void)
{
    int hour,min,left;
    printf("Enter the number of minutes: ");
    scanf("%d",&min);
    while(min>0)
    {
        hour=min/H_P_M;
        left=min%H_P_M;
        printf("%d minutes is %d hours and %d minutes.\n",min,hour,left);
        printf("Enter your next value: ");
        scanf("%d",&min);
    }
    printf("Good bye!\n");
    return 0;
}

```

2.

```

#include<stdio.h>
int main(void)
{
    int num,count;
    printf("Input a integer: ");

```



```

scanf("%d",&num);
count=0;
while(count++<11)
{
    printf("%d ",num);
    num++;
}
printf("\n");
return 0;
}

```

3.

```

#include<stdio.h>
#define DAYS_PER_WEEK 7 //    一周 7 天
int main(void)
{
    int day,week,left;
    printf("Input the number of days: ");
    scanf("%d",&day);
    while(day>0)
    {
        week=day/DAYS_PER_WEEK;
        left=day%DAYS_PER_WEEK;
        printf("%d days are %d weeks, %d days.\n",day,week,left);
        printf("Next input: ");
        scanf("%d",&day);
    }
    return 0;
}

```

4.

```

#include<stdio.h>
#define CM_PER_FEET 30.48 //1feet=30.48cm
#define CM_PER_INCH 2.54 //1inch=2.54cm
int main(void)
{
    int feet;
    float cm,inch;
    printf("Enter a height in centimeters: ");
    scanf("%f",&cm);
    while(cm>0)
    {

```

```

    feet=(int)(cm/CM_PER_FEET);
    inch=(cm-feet*CM_PER_FEET)/CM_PER_INCH;
    printf("%.1f cm = %d feet, %.1f inches\n",cm,feet,inch);
    printf("Enter a height in centimeters (<=0 to quit): ");
    scanf("%f",&cm);
}
printf("bye\n");
return 0;
}

```

5.

```

#include<stdio.h>
int main(void)
{
    int count,sum,days;
    printf("Input the number of days: ");
    scanf("%d",&days);
    count=sum=0;
    while(count++<days)
        sum=sum+count;
    printf("The money you earned: %d\n",sum);
    return 0;
}

```

6.

```

#include<stdio.h>
int main(void)
{
    int count,sum,days;
    printf("Input the number of days: ");
    scanf("%d",&days);
    count=sum=0;
    while(count++<days)
        sum=sum+count*count;
    printf("The money you earned: %d\n",sum);
    return 0;
}

```

7.

```

#include<stdio.h>

```

```

void cube(double n);
int main(void)
{
    double num;
    printf("Input a number: ");
    scanf("%lf",&num);
    cube(num);
}

```

```

void cube(double n)
{
    printf("The cube of %f is %f\n",n,n*n*n);
}

```

8.

```

#include<stdio.h>
int main(void)
{
    int num1,num2;
    printf("This program computes moduli.\n");
    printf("Enter an integer to serve as the second operand: ");
    scanf("%d",&num1);
    printf("Now enter the first operand: ");
    scanf("%d",&num2);
    while(num2>0)
    {
        printf("%d %% %d is %d\n",num2,num1,num2%num1);
        printf("Enter next number for first operand (<= 0 to quit): ");
        scanf("%d",&num2);
    }
    printf("Done\n");
}

```

9.

```

#include<stdio.h>
void Temperatures(double fah);
int main(void)
{
    double fah,cel,kel;//          华氏温度，摄氏温度，开氏温度
    printf("Input the Fahrenheit temperature: ");
    while(scanf("%lf",&fah)==1)
    {

```

```

        Temperatures(fah);
        printf("Next input: ");
    }
    printf("Done.\n");
}

void Temperatures(double fah)
{
    const double a=5.0,b=9.0,c=32.0,d=276.13;
    printf("%.2f          is %.2f          , %.2f K.\n",
        fah,a/b*(fah-c),a/b*(fah-c)+d);
}

```

## 第六章

1.

```

#include<stdio.h>
#define SIZE 26
int main(void)
{

    char ch[SIZE];
    int index;

    for(index=0;index<SIZE;index++)
    {
        ch[index]='a'+index;
        printf("%c ",ch[index]);
    }
    printf("\n");
    return 0;
}

```

2.

```

#include<stdio.h>
int main(void)
{
    int i,j;

    for(i=1;i<=5;i++)
    {

```

```
        for(j=1;j<=i;j++)
            printf("$");
        printf("\n");
    }
    return 0;
}
```

3.

```
#include<stdio.h>
int main(void)
{
    int i,j;
    for(i=1;i<=6;i++)
    {
        for(j=0;j<i;j++)
            printf("%c",'F'-j);
        printf("\n");
    }
    return 0;
}
```

4.

```
#include<stdio.h>
#define ROWS 6
int main(void)
{
    char ch;
    int i,j;
    for(ch='A',i=0;i<ROWS;i++)
    {
        for(j=0;j<=i;j++)
            printf("%c",ch++);
        printf("\n");

    }
    return 0;
}
```

5.

```
#include<stdio.h>
#define ROWS 5
```

```

int main(void)
{
    char ch='A';
    int i,j;
    for(i=1;i<=ROWS;i++)
    {
        for(j=1;j<=ROWS-i;j++)
            printf(" ");
        for(j=0;j<i;j++)
            printf("%c",ch+j);
        for(j=i-2;j>=0;j--)
            printf("%c",ch+j);
        printf("\n");
    }
    return 0;
}

```

6.

```

#include<stdio.h>
int main(void)
{

    int max,min,num;

    printf("Input the min and max: ");
    scanf("%d%d",&min,&max);
    printf("%10s%10s%10s\n","number","square","cube");
    for(num=min;num<=max;num++)
        printf("%10d%10d%10d\n",num,num*num,num*num*num);
    return 0;
}

```

7.

```

// 与题目不同 打印的是句子
#include<stdio.h>
#include<string.h>
#define SIZE 40
int main(void)
{
    int i,index=-1;
    char ch[SIZE];
    printf("Input a word: ");

```

```

do
{
    index++;
    scanf("%c",&ch[index]);}
while(ch[index]!='\n');
for(i=index+1;i<=40;i++)
    ch[i]='\0';
for(index=strlen(ch);index>=0;index--)
    printf("%c",ch[index]);
printf("\n");
return 0;
}

```

8.

```

#include<stdio.h>
int main(void)
{
    double n1,n2;
    printf("Input two numbers: ");
    while(2==scanf("%lf%lf",&n1,&n2))
    {
        printf("%f\n",(n1-n2)/n1*n2);
        printf("Input your next pair of numbers: ");
    }
    printf("Bye!\n");
    return 0;
}

```

9.

```

#include<stdio.h>
double calculate(double n1, double n2);
int main(void)
{
    double num1, num2;

    printf("Input two numbers: ");
    while (2 == scanf("%lf%lf", &num1, &num2)) //
    {
        printf("%f\n", calculate(num1, num2)); //
        printf("Input your next pair of numbers: ");
    }
    printf("Bye!\n");
    return 0;
}

```

输入两个浮点数

函数调用