五、读程序写出运行结果

1. #include<iostream.h>

#include<stdlib.h>

void main()

{

int a[8]={25,48,32,85,64,18,48,29};

int max,min;

max=min=a[0];

for(int i=0; i<8; i++) {

if(x>a[i]) max=a[i];

if(x<a[i]) min=a[i];

}

cout<<"max:"<<max<<endl;

cout<<"min:"<<min<<endl;

}

2. #include<iostream.h>

void main()

{

int a,b;

for(a=1,b=2; b<50;) {

cout<<a<<' '<<b<<' ';

a=a+b;

b=a+b;

}

cout<<endl;

cout<<a<<' '<<b<<' '<<endl;

}

3. #include<iostream.h>

const int M=3, N=4;

void main()

{

int i,j,s=0;

for(i=1;i<=M;i++)

for(j=1;j<=N;j++)

s+=i\*j;

cout<<”s=”<<s<<endl;

}

4. #include<iostream.h>

void main()

{

int a=2,b=5,c=0;

if(a+b>10) c=a\*b; else c=3\*a+b;

if(c<=20) cout<<c\*c; else cout<<4+c-5;

cout<<endl;

a=a+b; b=a+b;c+=a+b;

cout<<"a,b,c="<<a<<','<<b<<','<<c<<endl;

}

5. #include<iostream.h>

void main()

{

int x=5;

switch(2\*x-3) {

case 4: cout<<x<<’ ’;

case 7: cout<<2\*x+1<<’ ’;

case 10: cout<<3\*x-1<<’ ’; break;

default: cout<<"default"<<endl;

}

cout<<"switch end."<<endl;

}

6. #include<iomanip.h>

#include<math.h>

int a[4]={36,-5,73,8};

void main()

{

int i,y;

for(i=0; i<4; i++) {

if(a[i]<0) y=1;

else if(a[i]<10) y= a[i]\* a[i]+3;

else if(a[i]<60) y=4\*a[i]-5;

else y=int(sqrt(a[i])); // sqrt(x)为取x的平方根函数

cout<<setw(5)<<a[i]<<setw(5)<<y;

}

}

7. #include<iostream.h>

int a[8]={36,25,20,43,12,70,66,35};

void main()

{

int s0,s1,s2;

s0=s1=s2=0;

for(int i=0; i<8; i++) {

switch(a[i]%3) {

case 0: s0+=a[i];break;

case 1: s1+=a[i];break;

case 2: s2+=a[i];break;

}

}

cout<<s0<<’ ’<<s1<<’ ’<<s2<<endl;

}

8. #include<iomanip.h>

const int N=5;

void main()

{

int i,p=1,s=0;

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

p=p\*i;

s=s+p;

cout<<setw(5)<<i<<setw(5)<<p;

cout<<setw(5)<<s<<endl;

}

}

9. #include<iomanip.h>

const int M=20;

void main()

{

int c2,c3,c5;

c2=c3=c5=0;

for(int i=1; i<=M; i++) {

if(i%2==0) c2++;

if(i%3==0) c3++;

if(i%5==0) c5++;

}

cout<<c2<<' '<<c3<<' '<<c5<<endl;

}

10. #include<iomanip.h>

void main()

{

int i,j;

for(i=0;i<5;i++) {

for(j=i;j<5;j++) cout<<’\*’;

cout<<endl;

}

}

11. #include<iostream.h>

void main()

{

for(int i=1,s=0;i<20;i++) {

if(i%2==0 || i%3==0) continue;

cout<<i<<’ ’;

s+=i;

}

cout<<s<<endl;

}

12. #include<iostream.h>

const int T=6;

void main()

{

int i,j;

for(i=1;i<=T;i+=2)

for(j=2;j<=T;j+=2) {

if(i+j<T) cout<<’+’;

else cout<<’\*’;

}

}

13. #include<iostream.h>

void main()

{

int a,b,c=0;

for(a=1;a<4;a++)

for(b=6;b>1;b-=2) {

if((a+b)%2==0) c+=a+b; else c+=a\*b;

if(b==2) cout<<a<<’ ’<<b<<’ ’<<c<<endl;

}

}

14. #include<iostream.h>

const int B=2;

void main()

{

int p=1,s=1;

while(s<50) {

p\*=B;

s+=p;

}

cout<<"s="<<s<<endl;

}

15. #include<iostream.h>

void main()

{

int x=24,y=88;

int i=2,p=1;

do {

while(x%i==0 && y%i==0) {

p\*=i;

x/=i;

y/=i;

}

i++;

}while(x>=i && y>=i);

cout<<p\*x\*y<<endl;

}

16. #include<iomanip.h>

const int N=3;

void main()

{

int a[N][N]={{7,-5,3},{2,8,-6},{1,-4,-2}};

int b[N][N]={{3,6,-9},{2,-8,3},{5,-2,-7}};

int i,j,c[N][N];

for(i=0;i<N;i++) //计算矩阵C

for(j=0;j<N;j++)

c[i][j]=a[i][j]+b[i][j];

for(i=0;i<N;i++) { //输出矩阵C

for(j=0;j<N;j++)

cout<<setw(5)<<c[i][j];

cout<<endl;

}

}

17. #include<iostream.h>

int a=5;

void main() {

int b=a+20;

int a=10;

cout<<a<<' '<<b<<endl;

{ int a=0,b=0;

for(int i=1; i<6; i++) {

a+=i; b+=a;

}

cout<<a<<' '<<b<<endl;

}

cout<<a<<' '<<b<<endl;

}

18. #include<iostream.h>

int f1(int x, int y)

{

x=x+y; y=x+y;

cout<<"x="<<x<<", y="<<y<<endl;

return x+y;

}

void main()

{

int x=5,y=8;

int z=f1(x,y);

cout<<"x="<<x<<", y="<<y;

cout<<", z="<<z<<endl;

}

19. #include<iostream.h>

void f2(int& x, int& y)

{

int z=x; x=y; y=z;

}

void f3(int\* x, int\* y)

{

int z=\*x; \*x=\*y; \*y=z;

}

void main()

{

int x=10,y=26;

cout<<"x,y="<<x<<", "<<y<<endl;

f2(x,y);

cout<<"x,y="<<x<<", "<<y<<endl;

f3(&x,&y);

cout<<"x,y="<<x<<", "<<y<<endl;

x++; y--;

f2(y,x);

cout<<"x,y="<<x<<", "<<y<<endl;

}

20. #include<iostream.h>

void f4(int a[], int n, int& s)

{

s=0;

for(int i=0; i<n; i++) s+=a[i];

}

void main()

{

int b[8]={4,8,6,9,2,10,7,12};

int x; f4(b,5,x);

cout<<x<<' ';

int y; f4(b+3,4,y);

cout<<y<<' ';

cout<<x+y<<endl;

}

21. #include<iostream.h>

void main() {

int a[8]={36,25,48,14,55,40,50,24};

int b1, b2;

b1=b2=a[0];

for(int i=1;i<8;i++)

if(a[i]>b1) {b2=b1; b1=a[i];}

else if(a[i]>b2) b2=a[i];

cout<<b1<<' '<<b2<<endl;

}

22. #include<iostream.h>

void main() {

char a[]="abcdabcabfgacd";

int i1=0, i2=0, i=0;

while(a[i]) {

if(a[i]==’a’) i1++;

if(a[i]==’b’) i2++;

i++;

}

cout<<i1<<’ ’<<i2<<’ ’<<i<<endl;

}

23. #include<iostream.h>

void main() {

int a[10]={76,83,54,62,40,75,90,92,77,84};

int b[4]={60,70,90,101};

int c[4]={0};

for(int i=0;i<10;i++) {

int j=0;

while(a[i]>=b[j]) j++;

c[j]++;

}

for(i=0;i<4;i++) cout<<c[i]<<’ ’;

cout<<endl;

}

24. #include<iostream.h>

#include<string.h>

void main() {

char a[5][10]={"student","worker","soldier","cadre","peasant"};

char s1[10], s2[10];

strcpy(s1,a[0]); strcpy(s2,a[0]);

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

if(strcmp(a[i], s1)>0) strcpy(s1,a[i]);

if(strcmp(a[i], s2)<0) strcpy(s2,a[i]);

}

cout<<s1<<’ ’<<s2<<endl;

}

25. #include<iostream.h>

const int N=5;

void fun();

void main()

{

for(int i=1; i<N; i++)

fun();

}

void fun()

{

static int a;

int b=2;

cout<<(a+=3,a+b)<<' ';

}

26. #include<iostream.h>

void main()

{

char s[3][5]={"1234","abcd","+-\*/"};

char \*p[3];

for(int I=0;I<3;I++) p[I]=s[I];

for(I=2;I>=0;I--) cout<<p[I]<<' ';

cout<<endl;

}

27. #include<iostream.h>

void main()

{

int i,j,len[3];

char a[3][8]={"year","month","day"};

for(i=0;i<3;i++) {

for(j=0;j<8;j++)

if(a[i][j]=='\0') {

len[i]=j;break;

}

cout<<a[i]<<":"<<len[i]<<endl;

}

}

28. #include<iostream.h>

#include<string.h>

class CD {

char\* a;

int b;

public:

void Init(char\* aa, int bb)

{

a=new char[strlen(aa)+1];

strcpy(a,aa);

b=bb;

}

char\* Geta() {return a;}

int Getb() {return b;}

void Output() {cout<<a<<' '<<b<<endl;}

} dx;

void main()

{

CD dy;

dx.Init("abcdef",30);

dy.Init("shenyafen",3\*dx.Getb()+5);

dx.Output();

dy.Output();

}

29．#include<iostream.h>

#include<string.h>

class CD {

char\* a;

int b;

public:

void Init(char\* aa, int bb)

{

a=new char[strlen(aa)+1];

strcpy(a,aa);

b=bb;

}

char\* Geta() {return a;}

int Getb() {return b;}

void Output() {cout<<a<<' '<<b<<endl;}

};

void main()

{

CD dx,dy;

char a[20];

dx.Init("abcdef",30);

strcpy(a,dx.Geta());

strcat(a,"xyz");

dy.Init(a,dx.Getb()+20);

dx.Output();

dy.Output();

}

30. #include<iostream.h>

class CE {

private:

int a,b;

int getmax() {return (a>b? a:b);}

public:

int c;

void SetValue(int x1,int x2, int x3) {

a=x1; b=x2; c=x3;

}

int GetMax();

};

int CE::GetMax() {

int d=getmax();

return (d>c? d:c);

}

void main()

{

int x=5,y=12,z=8;

CE ex, \*ep=&ex;

ex.SetValue(x,y,z);

cout<<ex.GetMax()<<endl;

ep->SetValue(x+y,y-z,20);

cout<<ep->GetMax()<<endl;

}

31. #include<iostream.h>

class CE {

private:

int a,b;

int getmin() {return (a<b? a:b);}

public:

int c;

void SetValue(int x1,int x2, int x3) {

a=x1; b=x2; c=x3;

}

int GetMin();

};

int CE::GetMin() {

int d=getmin();

return (d<c? d:c);

}

void main()

{

int x=5,y=12,z=8;

CE \*ep;

ep=new CE;

ep->SetValue(x+y,y-z,10);

cout<<ep->GetMin()<<endl;

CE a=\*ep;

cout<<a.GetMin()\*3+15<<endl;

}

32. #include<iostream.h>

class Franction { //定义分数类

int nume; //定义分子

int deno; //定义分母

public:

//把\*this化简为最简分数，具体定义在另外文件中实现

void FranSimp();

//返回两个分数\*this和x之和，具体定义在另外文件中实现

Franction FranAdd(const Franction& x);

//置分数的分子和分母分别0和1

void InitFranction() {nume=0; deno=1;}

//置分数的分子和分母分别n和d

void InitFranction(int n, int d) {nume=n; deno=d;}

//输出一个分数

void FranOutput() {cout<<nume<<'/'<<deno<<endl;}

};

void main()

{

Franction a,b,c,d;

a.InitFranction(7,12);

b.InitFranction(-3,8);

c.InitFranction();

c=a.FranAdd(b);

d=c.FranAdd(a);

cout<<"a: "; a.FranOutput();

cout<<"b: "; b.FranOutput();

cout<<"c: "; c.FranOutput();

cout<<"d: "; d.FranOutput();

}

33. #include<iostream.h>

class Franction { //定义分数类

int nume; //定义分子

int deno; //定义分母

public:

//把\*this化简为最简分数，具体定义在另外文件中实现

void FranSimp();

//返回两个分数\*this和x之和，具体定义在另外文件中实现

Franction FranAdd(const Franction& x);

//置分数的分子和分母分别0和1

void InitFranction() {nume=0; deno=1;}

//置分数的分子和分母分别n和d

void InitFranction(int n, int d) {nume=n; deno=d;}

//输出一个分数

void FranOutput() {cout<<nume<<'/'<<deno<<endl;}

};

void main()

{

Franction a,b,c,d;

a.InitFranction(6,15);

b.InitFranction(3,10);

c.InitFranction();

c=a.FranAdd(b);

d=c.FranAdd(a);

cout<<"a: "; a.FranOutput();

cout<<"b: "; b.FranOutput();

cout<<"c: "; c.FranOutput();

cout<<"d: "; d.FranOutput();

}

34.

#include<iostream.h>

#include<string.h>

class A {

char \*a;

public:

A(char \*s) {

a=new char[strlen(s)+1];

strcpy(a,s);

cout<<a<<endl;

}

~A() {

delete []a;

cout<<"Destructor!"<<endl;

}

};

void main() {

A x("xuxiaokai");

A \*y=new A("weirong");

delete y;

}

35.

#include<iostream.h>

class A {

int \*a;

public:

A(int x=0):a(new int(x)){}

~A() {delete a;}

int getA() {return \*a;}

void setA(int x) {\*a=x;}

};

void main() {

A x1,x2(3);

A \*p=&x2;

p->setA(x2.getA()+5);

x1.setA(15+x1.getA());

cout<<x1.getA()<<' '<<x2.getA()<<endl;

}

36.

#include<iostream.h>

class A {

int a;

public:

A(int aa=0): a(aa) {cout<<a<<' ';}

~A() {cout<<"Xxk";}

};

void main() {

A \*p;

A x[3]={1,2,3},y=4;

cout<<endl;

p=new A[3];

cout<<endl;

delete []p;

cout<<endl;

}

37.

#include<iostream.h>

class A {

int a,b;

public:

A() {a=b=0;}

A(int aa, int bb) {a=aa; b=bb;}

int Sum() {return a+b;}

int\* Mult() {

int \*p=new int(a\*b);

return p;

}

};

void main() {

int \*k;

A x(2,3), \*p;

p=new A(4,5);

cout<<x.Sum()<<' '<<\*(x.Mult())<<endl;

cout<<p->Sum()<<' '<<\*(k=p->Mult())<<endl;

delete k;

}

38.

#include<iostream.h>

class A {

int a[10]; int n;

public:

A(int aa[], int nn): n(nn) {

for(int i=0; i<n; i++) a[i]=aa[i];

}

int Get(int i) {return a[i];}

int SumA(int n) {

int s=0;

for(int j=0; j<n; j++) s+=a[j];

return s;

}

};

void main() {

int a[]={2,5,8,10,15,20};

A x(a,4);

A y(a,6);

int d=1;

for(int i=0; i<4; i++) d\*=x.Get(i);

int f=y.SumA(5);

cout<<"d="<<d<<endl;

cout<<"f="<<f<<endl;

}

39.

#include<iostream.h>

class A {

int a,b;

public:

A(int aa, int bb) {a=aa; b=bb;}

float Multip(char op) {

switch(op) {

case '+': return a+b;

case '-': return a-b;

case '\*': return a\*b;

case '/': if(b!=0)return float(a)/b;

else {cout<<"除数为0!"<<endl; return 0;}

default: cout<<'\n'<<op<<"非法运算符!"<<endl;

return 0;

}

}

};

void main() {

A x(10,4);

char a[6]="+-\*/@";

int i=0;

while(a[i]) {

float k=x.Multip(a[i]);

if(k!=0) cout<<k<<' ';

i++;

}

cout<<endl;

}

40.

#include <iostream.h>

class Point {

int x,y;

public:

Point(int x1=0, int y1=0) :x(x1), y(y1) {

cout<<"Point:"<<x<<' '<<y<<'\n';

}

~Point() {

cout<<"Point destructor!\n";

}

};

class Circle {

Point center; //圆心位置

int radius; //半径

public:

Circle(int cx,int cy, int r):center(cx,cy),radius(r) {

cout<<"Circle radius:"<<radius<<'\n';

}

~Circle() {cout<<"Circle destructor!\n";}

};

void main()

{

Circle c(3,4,5);

}

41.

#include <iostream.h>

#include <string.h>

class Point {

int x,y;

public:

Point(int x1=0, int y1=0) :x(x1), y(y1) {

cout<<"Point:"<<x<<' '<<y<<'\n';

}

~Point() {

cout<<"Point des!\n";

}

};

class Text {

char text[100]; //文字内容

public:

Text(char \* str) {

strcpy(text,str);

cout<<"Text con!\n";

}

~Text() {cout<<"Text des!\n";}

};

class CircleWithText : public Point,public Text {

public:

CircleWithText(int cx,int cy, char \*msg):

Point(cx,cy),Text(msg) {

cout<<"Point with Text con!\n";

}

~CircleWithText() {cout<<"Point with Text des\n";}

};

void main()

{

CircleWithText cm(3,4,"hello");

}

42.

#include <iostream.h>

class Date

{

public:

void SetDate(int y,int m,int d){ Year=y; Month=m; Day=d; }

void PrintDate(){ cout<<Year<<"/"<<Month<<"/"<<Day<<endl;}

Date(){SetDate(2000,1,1);}

Date(int y,int m,int d){SetDate(y,m,d);}

protected:

int Year,Month,Day;

};

class Time

{

public:

void SetTime(int h,int m,int s){ Houre=h; Minutes=m; Seconds=s;}

void PrintTime(){ cout<<Houre<<":"<<Minutes<<":"<<Seconds<<endl;}

Time(){SetTime(0,0,0);}

Time(int h,int m,int s){SetTime(h,m,s);}

protected:

int Houre, Minutes, Seconds;

};

class Date\_Time: public Date, public Time

{

public:

Date\_Time( ):Date(),Time(){};

Date\_Time(int y,int mo,int d,int h,int mi,int s):

Date(y,mo,d), Time(h,mi,s){}

void PrintDate\_Time(){PrintDate();PrintTime();}

};

void main( )

{

Date\_Time dt\_a, dt\_b(2002,10,1,6,0,0);

dt\_a.PrintDate\_Time();

dt\_b.SetTime(23,59,59);

dt\_b.PrintDate\_Time();

dt\_a.SetDate(2002,12,31);

dt\_a.PrintDate\_Time();

}

43.

#include <iostream.h>

class Date

{

public:

Date(int y=2001,int m=1,int d=1){Year=y; Month=m; Day=d;}

void PrintDate(){ cout<<Year<<"/"<<Month<<"/"<<Day<<endl;}

protected:

int Year,Month,Day;

};

class Time

{

public:

Time(int h=5,int m=30,int s=0){Houre=h; Minutes=m; Seconds=s;}

void PrintTime(){ cout<<Houre<<":"<<Minutes<<":"<<Seconds<<endl;}

protected:

int Houre, Minutes, Seconds;

};

class Date\_Time: public Date, public Time

{

public:

Date\_Time( ){};

Date\_Time(int y,int mo,int d,int h=0,int mi=0,int s=0):

Date(y,mo,d), Time(h,mi,s){}

void PrintDate\_Time(){PrintDate();PrintTime();}

};

void main( )

{

Date\_Time a, b(2002,10,1,6,20,0), c(2003,3,8,6,7);

a.PrintDate\_Time();

b.PrintDate\_Time();

c.PrintDate\_Time();

}

44.

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*test.h\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//

#include <iostream.h>

class Base

{

public:

Base (int i,int j){ x0=i; y0=j;}

void Move(int x,int y){ x0+=x; y0+=y;}

void Show(){ cout<<"Base("<<x0<<","<<y0<<")"<<endl;}

private:

int x0,y0;

};

class Derived: private Base

{

public:

Derived(int i,int j,int m,int n):Base(i,j){ x=m; y=n;}

void Show (){cout<<"Next("<<x<<","<<y<<")"<<endl;}

void Move1(){Move(2,3);}

void Show1(){Base::Show();}

private:

int x,y;

};

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*test.cpp\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//

#include "test.h"

void main( )

{

Base b(1,2);

b.Show();

Derived d(3,4,10,15);

d.Move1();

d.Show();

d.Show1();

}

45.

/\*\*\*\*\*\*\*\*\*\*\*\*\* test.h \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

#include <iostream.h>

class Point

{

public:

void InitP(float x0=0, float y0=0) {X=x0;Y=y0;}

void Move(float xf, float yf) {X+=xf;Y+=yf;}

float GetX() {return X;}

float GetY() {return Y;}

private:

float X,Y;

};

class Rectangle: public Point

{

public:

void InitR(float x, float y, float w, float h) {

InitP(x,y);W=w;H=h;

}

void ZoomR(float k){W\*=k,H\*=k;}

float GetH() {return H;}

float GetW() {return W;}

private:

float W,H;

};

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*test.cpp\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//

#include "test.h"

void main()

{

Rectangle rect;

rect.InitR(10,20,30,40);

cout<<rect.GetX()<<","<<rect.GetY()<<","

<<rect.GetW()<<","<<rect.GetH()<<endl;

rect.Move(5,6);

cout<<rect.GetX()<<","<<rect.GetY()<<","

<<rect.GetW()<<","<<rect.GetH()<<endl;

rect.ZoomR(7);

cout<<rect.GetX()<<","<<rect.GetY()<<","

<<rect.GetW()<<","<<rect.GetH()<<endl;

}

46.

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*test.h\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//

#include <iostream.h>

class Base

{

public:

virtual void Set(int b){x=b;}

virtual int Get(){ return x;}

private:

int x;

};

class Derived: public Base

{

public:

void Set(int d){y = d;}

int Get(){return y;}

private:

int y;

};

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*test.cpp\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//

#include "test.h"

void main( )

{

Base B\_obj;

Derived D\_obj;

Base \*p=&B\_obj;

p->Set(100);

cout<<"B\_obj x="<<p->Get()<<endl;

p=&D\_obj;

p->Set(200);

cout<<"D\_obj y="<< p->Get()<<endl;

p->Base::Set(300);

cout<<"B\_obj x="<< p->Base::Get()<<endl;

p->Set(p->Get()+200);

cout<<"D\_obj y="<< p->Get()<<endl;

}