第一章

***习题1-1***

#include <stdio.h>

int main()

{

int a,b,c;

double d;

scanf("%d%d%d",&a,&b,&c);

d=(double)(a+b+c);

printf("%.3lf\n",d/3.0);

return 0;

}

***习题1-2***

#include <stdio.h>

int main()

{

int f;

double c;

scanf("%d",&f);

c=5\*(f-32)/9;

printf("%.3lf\n",c);

return 0;

}

***习题1-3***

#include <stdio.h>

int main()

{

int n;

scanf("%d",&n);

printf("%d\n",(n\*(1+n))/2);

return 0;

}

***习题1-4***

#include <stdio.h>

#include <math.h>

#define pi 4.0\*atan(1.0)

int main()

{

int n;

scanf("%d",&n);

printf("%lf\n",sin((pi\*n)/180));

printf("%lf\n",cos((pi\*n)/180));

return 0;

}

***习题1-5***

#include <stdio.h>

int main()

{

double x1,y1,x2,y2,a;

scanf("%lf %lf %lf %lf",&x1,&y1,&x2,&y2);

a=sqrt((x1-x2)\*(x1-x2)+(y1-y2)\*(y1-y2));

printf("%lf\n",a);

return 0;

}

***习题1-6***

#include <stdio.h>

int main()

{

int n;

scanf("%d",&n);

if(n%2==0)

{

printf("YES\n");

}

else

{

printf("NO\n");

}

return 0;

}

***习题1-7***

#include <stdio.h>

int main()

{

int n;

double a;

scanf("%d",&n);

a=n\*95.0;

if(a<300)

{

printf("%.2lf\n",a);

}

else

{

printf("%.2lf\n",a\*0.85);

}

return 0;

}

***习题1-8***

#include <stdio.h>

#include <math.h>

int main()

{

double n;

scanf("%lf",&n);

printf("%.2lf",fabs(n));

return 0;

}

***习题1-9***

#include <stdio.h>

int main()

{

int a,b,c;

scanf("%d%d%d",&a,&b,&c);

if(a==b&&b==c)

{

printf("no\n");

}

if((a\*a+b\*b==c\*c)||(a\*a+c\*c==b\*b)||(b\*b+c\*c==a\*a))

{

printf("yes\n");

}

else

{

printf("no\n");

}

return 0;

}

***习题1-10***

#include <stdio.h>

int main()

{

int n;

scanf("%d",&n);

if(n%4==0)

{

if(n%100!=0)

{

printf("no\n");

}

else

{

if(n%400==0)

{

printf("yes\n");

}

else

{

printf("no\n");

}

}

}

else

{

printf("no\n");

}

return 0;

}

第二章

习题2-1

#include <stdio.h>

int main()

{

int n,count=0;

scanf("%d",&n);

while(n>0)

{

count++;

n=n/10;

}

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

return 0;

}

习题2-2

#include <stdio.h>

int main()

{

int a,b,c;

for(int i=100;i<=999;i++)

{

a=i%10;

b=i/10%10;

c=i/100;

if(i==a\*a\*a+b\*b\*b+c\*c\*c)

{

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

}

}

return 0;

}

习题2-3

#include<stdio.h>

int main(){

int a,b,c,i,kase=1;

while(~scanf("%d%d%d",&a,&b,&c)){

for(i=10;i<=100;i++){

if(i%3==a&&i%5==b&&i%7==c)

printf("Case %d:%d\n",kase++,i);

else if(i=100)

printf("Case %d:No answer\n",kase++);}

}

return 0;

}

习题2-4

#include<stdio.h>

int main(){

int n;

while(~scanf("%d",&n)){

for(int i=n;i>=0;i--){

for(int j=n-i;j>0;j--)

printf(" ");

for(int j=2\*i-1;j>0;j--)

printf("#");

printf("\n");

}

}

}

习题2-5

文件题，南邮竞赛基本不涉及。。。

习题2-6

#include <stdio.h>

int main()

{

int i,n;

double sum=1.0;

scanf("%d",&n);

for(i=2;i<=n;i++)

{

sum+=(1.0/i);

}

printf("%.3lf\n",sum);

return 0;

}

习题2-7

#include <stdio.h>

#include <math.h>

int main()

{

int t=-1;

double a=1.0,sum=1.0;

while(fabs(a)>=0.000001)

{

a=1.0/(a+2);

a=a\*t;

sum=sum+a;

t=t\*(-1);

}

printf("%.9lf\n",sum);

return 0;

}

习题2-8

#include<stdio.h>

int main(){

int n,m,temp,kase=0;

while(~scanf("%d%d",&n,&m)){

double s=0;

if(n>m){temp=n;n=m;m=temp;}

if(n==0&&m==0) break;

for(int i=n;i<=m;i++)

{

s+=1.0/i/i;}

printf("Case %d:%.5f\n",++kase,s);}

return 0;}

习题2-9

printf的特殊用法:对于m.n的格式可以用如下方法表示

    char ch[20];  
    printf("%\*.\*s\n",m,n,ch);  
    前边的\*定义的是总的宽度，后边的定义的是输出的个数。分别对应外面的参数m和n 。 这种方法的好处是可以在语句之外对参数m和n赋值，从而控制输出格式。

#include <stdio.h>

int main()

{

int a,b,c;

scanf("%d%d%d",&a,&b,&c);

printf("%.\*lf\n",c,(double)a/b);

return 0;

}

习题2-10

#include<stdio.h>

#define FOR(i) for(i=1;i<10;i++)

int main(){

int a,b,c,d,e,f,g,h,i;

FOR(a){

FOR(b){

FOR(c){

FOR(d){

FOR(e){

FOR(f){

FOR(g){

FOR(h){

FOR(i){

if(2\*(a\*100+b\*10+c)==(d\*100+e\*10+f)&&3\*(a\*100+b\*10+c)==(g\*100+h\*10+i)){

if((a!=b)&&(a!=c)&&(a!=d)&&(a!=e)&&(a!=f)&&(a!=g)&&(a!=h)&&(a!=i)&&

(b!=c)&&(b!=d)&&(b!=e)&&(b!=f)&&(b!=g)&&(b!=h)&&(b!=i)&&

(c!=d)&&(c!=d)&&(c!=e)&&(c!=f)&&(c!=g)&&(c!=h)&&(c!=i)&&

(d!=e)&&(d!=f)&&(d!=g)&&(d!=h)&&(d!=i)&&(e!=f)&&(e!=g)&&

(e!=h)&&(e!=i)&&(f!=g)&&(f!=h)&&(f!=i)&&(g!=h)&&(g!=i)&&(h!=i)){

printf("%d\n%d\n%d\n",a\*100+b\*10+c,d\*100+e\*10+f,g\*100+h\*10+i);}}}}}}}}}}}}

第三章

习题3-1

#include<stdio.h>

#include<string.h>

int main()

{

int num[80];

char str[81];

int t;

scanf("%d",&t);

while(t--)

{

int sum=0;

scanf("%s",str);

str[0]=='O'?num[0]=1:num[0]=0;

for(int i=1;i<strlen(str);i++)

{

str[i]=='O'?num[i]=num[i-1]+1:num[i]=0;

sum+=num[i];

}

printf("%d\n",sum+num[0]);

}

}

习题3-2

#include<stdio.h>

#include<string.h>

#include<ctype.h>

double M(char x)

{

if(x=='C')

return 12.01;

if(x=='H')

return 1.008;

if(x=='O')

return 16.00;

if(x=='N')

return 14.01;

}

int main()

{

char str[100];

int N,i,j;

double sum;

scanf("%d",&N);

while(N--)

{

scanf("%s",str);

sum=0;

for(i=0;i<strlen(str);i++)

{

if(isalpha(str[i]))

{

if(str[i+1]<='9'&&str[i+1]>='1')

{

if(str[i+2]<='9'&&str[i+2]>='1')

{

sum=sum+M(str[i])\*((str[i+1]-'0')\*10+str[i+2]-'0');

i=i+2;

}

else

{

sum=sum+M(str[i])\*(str[i+1]-'0');

i++;

}

}

else

{

sum+=M(str[i]);

}

}

}

printf("%.3lf\n",sum);

}

}

***习题3-3***

#include <stdio.h>

#include<string.h>

char s[1000000];

int a[10000];

int main(){

while(~scanf("%s",s)){

int b[10]={};

for (int i=0;i<10000;i++) {

b[s[i]-'0']++;

}

for (int i=0;i<9;i++) printf("%d ", b[i]);

printf("%d\n", b[9]);

}

return 0;

}

习题3-4

#include<stdio.h>

#include<string.h>

char s[85];

int main()

{

while(~scanf("%s",s)){

int len=strlen(s);

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

{

if(len%i==0)

{

int k;

for(k=1;k<=len;++k)

{

if(s[k]!=s[k%i])

break;

}

if(k==len)

{printf("%d\n",i);break;}

}

}

}

}

习题3-5

#include<stdio.h>

#include<string.h>

const int LEN=5;

const int MAX=100;

const int y[]={0,0,1,-1};

const int x[]={-1,1,0,0};

char map[LEN][LEN];

int tra[110];

bool legal(int pos){

return 0<=pos&&pos<LEN;

}

void Pmap(){

for(int cow=0;cow<LEN;cow++)

{

printf("%c",map[cow][0]);

for(int col=1;col<LEN;col++)

printf(" %c",map[cow][col]);

printf("\n");

}

}

int main(){

tra['A']=0;

tra['B']=1;

tra['R']=2;

tra['L']=3;

bool first=true;

int Case=0;

int bx,by;

while(gets(map[0])){

if(map[0][0]=='Z')break;

for(int col=1;col<LEN;col++)

gets(map[col]);

for(int i=0;i<LEN;i++)

for(int j=0;j<LEN;j++)

if(map[i][j]==' '){

bx=i;by=j;

}

bool ok=true;

char c;

while(scanf(" %c",&c),c!='0'){

if(!ok)continue;

int nx=bx+x[tra[c]],ny=by+y[tra[c]];

if(!legal(nx)||!legal(ny)){

ok=false;

continue;

}

map[bx][by]=map[nx][ny];

map[nx][ny]=' ';

bx=nx;by=ny;

}

getchar();

if(first)

first=false;

else

printf("\n");

printf("Puzzle #%d:\n",++Case);

if(ok)

Pmap();

else

printf("This puzzle has no final configuration./n");

}

return 0;

}

习题3-6

#include<stdio.h>

int first=1;

char map[12][12];

struct point

{

int x,y;

int r,c;

}str[111];

int main()

{

int r,c;

while(~scanf("%d%d",&r,&c),r,c)

{

for(int i=0;i<r;i++)

scanf("%s",map[i]);

int num=0;

for(int i=0;i<r;i++)

for(int j=0;j<c;j++)

{

if(map[i][j]!='\*'){

if(map[i][j-1]=='\*'||j-1<0)

{ str[num].y=j;

str[num].x=i;

str[num].r=1;

num++;

}

else str[num].r=0;

if(map[i-1][j]=='\*'||i-1<0)

{

str[num].x=i;

str[num].y=j;

str[num].c=1;

num++;

}

else str[num].c=0;

}

}

if(first)

first=0;

else

printf("\n");

printf("Across:\n");

for(int i=0;i<num;i++)

{

if(str[i].r)

{

for(int j=str[i].y;j<c;j++)

{

if(map[str[i].x][j]=='\*')break;

printf("%c",map[str[i].x][j]);

}

printf("\n");

}

}

printf("Down:\n");

for(int i=0;i<num;i++)

{

if(str[i].c)

{

for(int j=str[i].x;j<r;j++)

{

if(map[j][str[i].y]=='\*')break;

printf("%c",map[j][str[i].y]);

}

printf("\n");

}

}

}

}

习题3-7

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

else printf("\n");

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

int Max = 0, id;

memset(cnt, 0, sizeof(cnt));

for (int j = 0; j < m; j++) {

int tmp = dna[j][i];

cnt[tmp]++;

if (cnt[tmp] > Max) {

Max = cnt[tmp];

id = tmp;

} else if (cnt[tmp] == Max && tmp < id)

id = tmp;

}

ans += m - Max;

printf("%c", id);

}

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

}

int main() {

int cas;

scanf("%d", &cas);

while (cas--) {

init();

solve();

}

return 0;

}

习题3-8

#include<cstdio>

#include<cstring>

using namespace std;

const int N=3005;

int a[N],v[N];

int main()

{

int n, m, cnt;

while(~scanf("%d%d",&n,&m))

{

cnt = 0;

memset(v,0,sizeof(v));

printf("%d/%d = %d.",n,m,n/m);

n=n%m;

while(!v[n])

{

a[++cnt]=(n\*10)/m;

v[n]=cnt;

n = n \* 10 % m;

}

for(int i=1;i<=cnt&&i<51; ++i)

{

if(i==v[n]) printf("(");

printf("%d", a[i]);

if(i==50) printf("..."); }

printf(")\n %d = number of digits in repeating cycle\n\n", cnt- v[n]+1);

}

return 0;

}

习题3-9

#include<iostream>

#include<cstring>

#include<cstdio>

#define SIZE 1100000

using namespace std;

char sub[SIZE], base[SIZE];

int main()

{

while(scanf("%s%s",base,sub) != EOF)

{

int len = strlen(sub);

int base\_len = strlen(base);

int j = 0;

if(len > base\_len)

{

printf("No\n");

continue;

}

for(int i=0; i<base\_len; ++i)

{

if(sub[j] == base[i]) j++;

if(j>=len) break;

}

if(j >= len) printf("Yes\n");

else printf("No\n");

}

return 0;

}

习题3-10

#include<iostream>

#include<cstdio>

#include<cstring>

#include<algorithm>

using namespace std;

struct node

{

int h,w;

bool operator < (const node& r) const { return h<r.h || h==r.h&&w<r.w; }

}r[7];

bool read()

{

memset(r,0,sizeof(r));

while(cin>>r[0].h>>r[0].w)

{

if(r[0].h>r[0].w) swap(r[0].h,r[0].w);

for(int i=1;i<6;i++) { cin>>r[i].h>>r[i].w; if(r[i].h>r[i].w) swap(r[i].h,r[i].w);}

return true;

}

return false;

}

bool Is\_box()

{

if(r[0].h!=r[1].h || r[0].w!=r[1].w) return false;

if(r[2].h!=r[3].h || r[2].w!=r[3].w) return false;

if(r[4].h!=r[5].h || r[4].w!=r[5].w) return false;

if(r[0].h!=r[2].h) return false;

if(r[0].w!=r[4].h) return false;

if(r[2].w!=r[4].w) return false;

return true;

}

int main()

{

//freopen("1587.txt","r",stdin);

while(read())

{

sort(r,r+6);

if(Is\_box()) cout<<"POSSIBLE"<<endl;

else cout<<"IMPOSSIBLE"<<endl;

}

return 0;

}

习题3-11

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题3-12

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-1

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-2

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-3

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-4

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-5

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-6

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-7

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-8

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-8

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;

习题4-9

#include <stdio.h>

#include <string.h>

const int N = 1005;

const int M = 105;

int first=1;

int n, m, cnt[M];

char dna[M][N];

void init() {

scanf("%d%d", &m, &n);

for (int i = 0; i < m; i++) scanf("%s", dna[i]);

}

void solve() {

int ans = 0;

if(first)

first=0;