**算法训练 反置数**

时间限制：1.0s   内存限制：512.0MB

问题描述

　　一个整数的“反置数”指的是把该整数的每一位数字的顺序颠倒过来所得到的另一个整数。如果一个整数的末尾是以0结尾，那么在它的反置数当中，这些0就被省略掉了。比如说，1245的反置数是5421，而1200的反置数是21。请编写一个程序，输入两个整数，然后计算这两个整数的反置数之和sum，然后再把sum的反置数打印出来。要求：由于在本题中需要多次去计算一个整数的反置数，因此必须把这部分代码抽象为一个函数的形式。  
　　输入格式：输入只有一行，包括两个整数，中间用空格隔开。  
　　输出格式：输出只有一行，即相应的结果。  
　　输入输出样例

样例输入

435 754

样例输出

199

本题的C++参考代码如下：

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*Powered by Graphene Richards\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

//{

#define OUTPUT\_PRECISION "%.2f"

#define INT\_64\_MOD "%I64d" ///"%I64d" or "%lld"

#define UNSIGNED\_64\_MOD "%I64u" ///"%I64d" or "%lld"

#define CONTEST\_STARTED true

#define CONTEST\_START\_HOUR 11

#define CONTEST\_START\_MIN 0

#define CONTEST\_START\_SEC 0

#define CONTEST\_DUR\_HOUR 5

#define CONTEST\_DUR\_MIN 0

#define CONTEST\_DUR\_SEC 0

//#pragma comment(linker,"/STACK:102400000,102400000")

#include<cmath>

#include<cstdio>

#include<cstdlib>

#include<cstring>

#include<algorithm>

#include<bitset>

#include<vector>

#include<iomanip>

#include<iostream>

#include<list>

#include<map>

#include<queue>

#include<set>

#include<stack>

#include<string>

#include<typeinfo>

#define \_\_\_\_\_\_\_\_\_\_ ios\_base::sync\_with\_stdio(0),cin.tie(0);

#define ll long long

#define IT(x) \_\_typeof((x).begin())

#define FS(i,a) for(int i=0;a[i];i++)

#define FE(x,ctn) for(IT(ctn)x=(ctn).begin(),CluhxSchFuDeugk=(ctn).end();x!=CluhxSchFuDeugk;x++)

#define FR(i,en) for(int i=0,pJNwFPtlXiwFoIv=(en);i<pJNwFPtlXiwFoIv;i++)

#define FOR(i,en) for(int i=1,SbKCIcakJTeYVqs=(en);i<=SbKCIcakJTeYVqs;i++)

#define FFR(i,x,y) for(int i=(x),alVDbhLBoMEGSwA=(y);i<=alVDbhLBoMEGSwA;i++)

#define DFFR(i,x,y) for(int i=(x),NWYfecAcmGBMJuU=(y);i>=NWYfecAcmGBMJuU;i--)

#define mp make\_pair

#define pb push\_back

#define pq priority\_queue

#define fi first

#define se second

#define lb(x) (x&(-x))

#define sqr(x) (x)\*(x)

#define all(x) (x).begin(),(x).end()

#define clr(x) memset((x),0,sizeof(x))

#define inf(x) memset((x),0x7F,sizeof(x))

#define \_inf(x) memset((x),0x80,sizeof(x))

#define NL puts("");

using namespace std;

template<class T1,class T2,class T3>

bool IN(T1 x,T2 y,T3 z){

return x<=y&&x>=z||x<=z&&x>=y;

}

template<class T>

T gcd(T a,T b){

if(!b)

return a;

while(b^=a^=b^=a%=b);

return a;

}

#ifdef wmx16835

#include<ctime>

struct Time\_wmx{

int t;

Time\_wmx(int a,int b,int c):t(a\*3600+b\*60+c){}

Time\_wmx(int x):t(x){}

Time\_wmx(){}

operator int(){return t;}

void print(){printf("%02d:%02d:%02d",t/3600%24,t/60%60,t%60);}

};

void OVZmetNNpAqAVZx(){

//\_\_\_\_\_\_\_\_\_\_;

time\_t t=time(0);

srand(t);

tm\*p=localtime(&t);

Time\_wmx day(24,0,0),cur(p->tm\_hour,p->tm\_min,p->tm\_sec),beg(CONTEST\_START\_HOUR,CONTEST\_START\_MIN,CONTEST\_START\_SEC),len(CONTEST\_DUR\_HOUR,CONTEST\_DUR\_MIN,CONTEST\_DUR\_SEC),en(beg+len),fen(beg+en+day>>1),seg;

if(beg>cur)

cur.t+=day;

puts(" +--------------------------+");

if(IN(cur,beg,en)&&CONTEST\_STARTED){

puts(" | Status: Running |");

printf(" | Progress: %5.1f %% |\n",(double)(cur-beg)/len\*100);

seg.t=en-cur;

printf(" | Remaining time: ");

seg.print();

puts(" |");

}

else{

printf(" | Current time: ");

cur.print();

puts(" | ");

if(cur<=fen||!CONTEST\_STARTED)

puts(" | Status: Ended |");

else{

puts(" | Status: Scheduled |");

cur.t-=day;

seg.t=beg-cur;

printf(" | Remaining time: ");

seg.print();

puts(" |");

}

}

puts(" +--------------------------+");

puts("................................\n");

}

void pCJUYxWEXKaDOIC(){

int num=1;

FILE\*p=fopen("FILE\_NAME","r");

if(p){

fscanf(p,"%d",&num);

fclose(p);

}

char f\_name[1024];

sprintf(f\_name,"%d.out",num++);

printf("[NOTICE] Standard output has been redirected to \"%s\".\n",f\_name);

freopen(f\_name,"w",stdout);

if(!stdout)

exit(1);

else

p=fopen("FILE\_NAME","w");

if(p){

fprintf(p,"%d",num);

fclose(p);

}

}

#define LOG {unsigned ijqQjAZZNYpJYBe=clock();

#define TEL printf("\n----------------------\nExecution time: %ums\n----------------------\n",clock()-ijqQjAZZNYpJYBe);}

#define SHOW\_TIME OVZmetNNpAqAVZx();

#define test printf

#define PF pCJUYxWEXKaDOIC();

#else

#define LOG

#define TEL

#define SHOW\_TIME

#define test

#define PF

#endif

int S(char\*a){

return scanf("%s",a)==1;

}

template<class T>

int S(T&a){

const char\*x=typeid(a).name();

if(!strcmp(x,"i")||!strcmp(x,"b"))return scanf("%d",&a)==1;

else if(!strcmp(x,"j"))return scanf("%u",&a)==1;

else if(!strcmp(x,"c"))return scanf("%c",&a)==1;

else if(!strcmp(x,"Pc")||\*x=='A')return scanf("%s",a)==1;

else if(!strcmp(x,"f"))return scanf("%f",&a)==1;

else if(!strcmp(x,"d")||!strcmp(x,"e"))return scanf("%lf",&a)==1;

else if(!strcmp(x,"x"))return scanf(INT\_64\_MOD,&a)==1;

else if(!strcmp(x,"y"))return scanf(UNSIGNED\_64\_MOD,&a)==1;

else test("Input format error!\n");

}

template<class T>

void \_P(T a){

const char\*x=typeid(a).name();

if(!strcmp(x,"i")||!strcmp(x,"b"))printf("%d",a);

else if(!strcmp(x,"j"))printf("%u",a);

else if(!strcmp(x,"c"))printf("%c",a);

else if(!strcmp(x,"Pc")||!strcmp(x,"PKc")||\*x=='A')printf("%s",a);

else if(!strcmp(x,"d")||!strcmp(x,"e")||!strcmp(x,"f"))printf(OUTPUT\_PRECISION,a);

else if(!strcmp(x,"x"))printf(INT\_64\_MOD,a);

else if(!strcmp(x,"y"))printf(UNSIGNED\_64\_MOD,a);

else test("Output format error!\n");

}

template<class T1,class T2>

int S(T1&a,T2&b){

return S(a)+S(b)==2;

}

template<class T1,class T2,class T3>

int S(T1&a,T2&b,T3&c){

return S(a)+S(b)+S(c)==3;

}

template<class T1,class T2,class T3,class T4>

int S(T1&a,T2&b,T3&c,T4&d){

return S(a)+S(b)+S(c)+S(d)==4;

}

template<class T1,class T2,class T3,class T4,class T5>

int S(T1&a,T2&b,T3&c,T4&d,T5&e){

return S(a)+S(b)+S(c)+S(d)+S(e)==5;

}

template<class T>

void P(T a){

\_P(a);

putchar(' ');

}

template<class T>

void PN(T a){

\_P(a);

NL

}

template<class T1,class T2>

void PN(T1 a,T2 b){

\_P(a);putchar(' ');

\_P(b);NL

}

template<class T1,class T2,class T3>

void PN(T1 a,T2 b,T3 c){

\_P(a);putchar(' ');

\_P(b);putchar(' ');

\_P(c);NL

}

template<class T1,class T2,class T3,class T4>

void PN(T1 a,T2 b,T3 c,T4 d){

\_P(a);putchar(' ');

\_P(b);putchar(' ');

\_P(c);putchar(' ');

\_P(d);NL

}

template<class T1,class T2,class T3,class T4,class T5>

void PN(T1 a,T2 b,T3 c,T4 d,T5 e){

\_P(a);putchar(' ');

\_P(b);putchar(' ');

\_P(c);putchar(' ');

\_P(d);putchar(' ');

\_P(e);NL

}

int kase;

const double pi=4\*atan(1);

//}

int fan(int x){

int res=0;

while(x){

res\*=10;

res+=x%10;

x/=10;

}

return res;

}

int main(){

SHOW\_TIME

int a,b;

S(a,b);

P(fan(fan(a)+fan(b)));

}

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/\*\*\*\*\*\*\*\*\*\*\*\*\*\*Template V1.26 build 20141210\*\*\*\*\*\*\*\*\*\*\*\*\*/

本题的C参考代码如下：

#include <stdio.h>

#include <string.h>

int inverse(int m);

int inverse\_sum(int a,int b);

int main()

{

int a,b,sum;

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

sum=inverse\_sum(a,b);

sum=inverse(sum);

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

return 0;

}

int inverse(int m)

{

char str[6];

int i,j;

i=0;

while(m)

{

str[i++]=m%10+'0';

m/=10;

}

str[i]='\0';

j=atoi(str);

return (j);

}

int inverse\_sum(int a,int b)

{

int j,k;

j=inverse(a);

k=inverse(b);

return j+k;

}

本题的Java参考代码如下：

import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

public class Main {

static int sum;

private static int rpNum(String str1) {

// TODO Auto-generated method stub

StringBuffer sb=new StringBuffer(str1);

sb=sb.reverse();

StringBuffer tem=new StringBuffer();

boolean ch=false;

for(int i=0;i<sb.length();i++){

if(sb.charAt(i)!='0'){

ch=true;

}

if(ch){

tem.append(sb.charAt(i));

}

}

return Integer.parseInt(tem.toString());

}

public static void main(String[] args) throws IOException {

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

String[] strNum=br.readLine().split(" ");

for(int i=0;i<2;i++){

sum+=rpNum(strNum[i]);

}

System.out.println(rpNum(new Integer(sum).toString()));

}

}