1. 实验目的

(1).掌握指针及栈的应用

二.实验任务

编写课本习题

三.代码

1.

#include<stdio.h>  
#include<string.h>  
#include<stdlib.h>  
#define N 50  
char haha[2][N];  
int main()  
{  
    void check(char \*a,char \*b,int lena);  
    for(int i=0;i<2;i++)  
    {  
        scanf("%s",haha[i]);  
    }  
    int lena = strlen(\*haha);  
    if(!(strlen(\*haha)-strlen(\*(haha+1))))  
    {  
        check(\*haha,\*(haha+1),lena);  
    }  
    else  
    {  
        printf("No");  
    }  
    system("\npause");  
    return 0;  
}  
void check(char \*a,char \*b,int lena)  
{  
    int englist0[26]={0};  
    for(int i=0;i<lena;i++)  
    {  
        ++englist0[a[i]-'a'];  
        --englist0[b[i]-'a'];  
    }  
    int i=25,s;  
    while(i)  
    {  
        if(!(englist0[i]))  
        {  
            s=0;  
        }  
        else  
        {  
            s=1;  
            break;  
        }  
        i--;  
    }  
    if(s)  
    {  
        printf("No\n");  
    }  
    else  
    {  
        printf("Yes\n");  
    }  
}

2.

#include<stdio.h>  
int main()  
{  
    int x,n;  
    long long p(int x,int n);  
    printf("Input x n:\n");  
    scanf("%d%d",&x,&n);  
    printf("%d",p(x,n));  
    return 0;  
}  
long long p(int x,int n)  
{  
    long long ago=1;  
    if(x==0 || n==0)  
    {  
        return 1;  
    }  
    if(n==1)  
    {  
        return x;  
    }  
    else  
    {  
        return     x\*p(x,n-1);  
    }  
}

3.

#include<stdio.h>  
char ch='y';  
int main()  
{  
    void play(int gol);  
    int num;  
    scanf("%d",&num);  
    if((num == 7)||(num == 11))  
    {  
        printf("Win\n");  
        printf("Play again?\n");  
        getchar();  
        ch=getchar();  
        if((ch = 'y')||((ch = 'Y')))  
        {  
            play(num);  
        }  
    }  
    else if((num == 2)||(num == 3)||(num == 12))  
    {  
        printf("Lose\n");  
        printf("Play again?\n");  
        getchar();  
        ch=getchar();  
        if((ch = 'y')||((ch = 'Y')))  
        {  
            main();  
        }  
    }  
    else  
    {  
        play(num);  
    }  
    return 0;  
}  
void play(int gol)  
{  
    int po;  
    scanf("%d",&po);  
    if(po == gol)  
    {  
        printf("Win\n");  
        printf("Play again?\n");  
        getchar();  
        ch=getchar();  
        if((ch = 'y')||((ch = 'Y')))  
        {  
            play(po);  
        }  
          
    }  
    else if(po == 7)  
    {  
        printf("Lose\n");  
        printf("Play again?\n");  
        if((ch = 'y')||((ch = 'Y')))  
        {  
            main();  
        }  
    }  
}

4.

#include<cstdio>  
#include<iostream>  
#include<stack>  
#include<queue>  
#define N 20  
#define HO printf("\n");system("pause");  
using namespace std;  
int main()  
{  
    int StringToNum(char \* str);  
    int isC(char \*str);  
    int isNum(char \*str);  
    queue<double> numque;  
    stack<char> signstk;  
    char input[N][N];  
    int inputlen=0;  
    for (int i = 0; i < N; i++)  
    {  
        cin >> input[i];  
        if (getchar() == '\n')  
        {  
            inputlen = i+1;  
            break;  
        }  
    }  
    for (int i = 0; i < inputlen; i++)  
    {  
        if (isC(input[i]))  
        {  
            signstk.push(input[i][0]);  
              
        }  
        else if (isNum(input[i]))  
        {  
            numque.push(StringToNum(input[i]));  
        }  
    }  
    double ans=0;  
    ans = numque.front();  
    while (signstk.size())  
    {  
        numque.pop();  
        if (signstk.top() == '+')  
        {  
            ans += numque.front();  
        }  
  
        else if (signstk.top() == '-')  
        {  
            ans -= numque.front();  
        }  
  
        else if (signstk.top() == '\*')  
        {  
            ans \*= numque.front();  
        }  
  
        else if (signstk.top() == '/')  
        {  
            ans /= numque.front();  
        }  
        signstk.pop();  
    }  
    printf("%.3lf", ans);  
    HO  
    return 0;  
}  
int StringToNum(char \*str)  
{  
    int len = strlen(str);  
    int num = 0,j=0;  
    for (int i = len - 1; i != -1 && str[i] != '-'; i--,j++)  
    {  
        num += ((str[i] - 48)\*pow(10, j));  
    }  
    if (str[0] == '-')  
    {  
        return num\*-1;  
    }  
    else  
    {  
        return num;  
    }  
}  
int isC(char \*str)  
{  
    if( ( (str[0]=='+')|| (str[0] == '-')|| (str[0] == '\*')|| (str[0] == '/')) && (strlen(str) == 1))  
    {  
        return 1;  
    }  
    else  
    {  
        return 0;  
    }  
}  
int isNum(char \*str)  
{  
    if ((str[1] > 47 && str[1] < 58) || (str[0] > 47 && str[0] < 58))  
    {  
        if (str[0] == '-')  
        {      
            return -1;  
        }  
        else  
        {  
            return 1;  
        }  
    }  
    else  
    {  
        return 0;  
    }  
}

5.

#include<stdio.h>  
#include<iostream>  
#define LEN 60   
#define HE 3  
#define DT 4  
int dignum[10][9] ={{ 0,1,0,1,0,1,1,1,1 },{ 0,0,0,0,0,1,0,0,1 },{ 0,1,0,0,1,1,1,1,0 },{ 0,1,0,0,1,1,0,1,1 },{ 0,0,0,1,1,1,0,0,1 },{ 0,1,0,1,1,0,0,1,1 },{ 0,1,0,1,1,0,1,1,1 },{ 0,1,0,0,0,1,0,0,1 },{ 0,1,0,1,1,1,1,1,1 },{ 0,1,0,1,1,1,0,1,1 }};  
  
char dig[] = {' ','\_',' ','|','\_','|','|','\_','|'};  
int dt = 0, ind = 0;  
char paper[HE][LEN];  
char input[15];  
int main()  
{  
    void draw(int num);  
    scanf("%s",input);   
    for (int i = 0; input[i]!='\0'; i++)  
        draw(input[i] - 48);  
    for (int i = 0; i < HE; i++)  
    {  
        for (int j = 0; j < LEN; j++)  
        {  
            printf("%c",paper[i][j]);  
        }  
        printf("\n");  
    }  
    printf("\n");  
    system("pause");  
    return 0;  
}  
void draw(int num)  
{  
        for (int i = 0; i < HE; i++)  
        {  
            for (int j = 0+dt; j < 3 + dt; j++)  
            {  
                if (dignum[num][ind])    paper[i][j] = dig[ind];  
                else    paper[i][j] = ' ';  
                ind++;  
            }  
        }  
        ind = 0;  
        dt += DT;  
}

6.

#include<stdio.h>

#include<stdlib.h>

#define SIZE 5001

#define HO system("pause");

int check[SIZE] = { 0 };

int primelist[SIZE] = { 0 };

int pos = 0,sum=0;

int main()

{

void print(int \*arr,int len); //void print(int \*arr,int len)

bool cry(int num); //{

bool piu(int num); // printf("%d ",\*(arr+i));

bool eve(int num); //}

bool yes(); //printf("\n");

for (int i = 2; i < SIZE; ++i) //}

{

if (!check[i])

{

primelist[pos++] = i;

}

for (int j = 0; j < pos&&i\*primelist[j] < SIZE; j++)

{

check[i\*primelist[j]] = 1;

}

}

yes(); //print(primelist,pos);

printf("\n");

HO

return 0;

}

bool yes()

{

bool eve(int num);

bool cry(int num);

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

{

if((eve(\*(primelist+i)))&&cry(sum))

{

printf("%d ",\*(primelist+i));

}

}

}

bool eve(int num)

{

bool piu(int num);

int len=0,ha=0;

int sad=num;

do

{

sum+=num%10;

if(piu(num%10))

{

ha++;

}

len++;

num/=10;

}while(num);

return (ha==len)?1:0;

}

bool piu(int num)

{

return ((num == 2)||(num==3)||(num==5)||(num ==7))?1:0;

}

bool cry(int num)

{

for(int i=0;i<32;i++)

{

if(\*(primelist+i) == num)

{

return 1;

}

}

}

4.

四.实验结果

程序全部正常运行，得到结果正确。

五.分析

掌握指针及栈的应用