

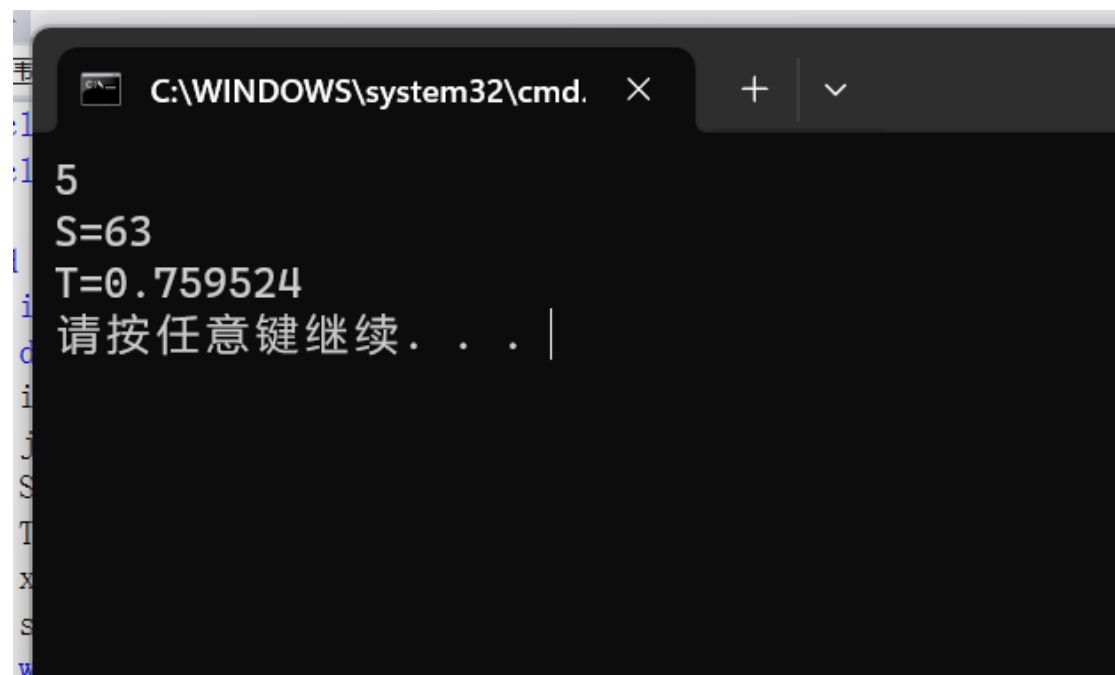
练习 6

2.

```
#include<stdio.h>
```

```
#include<math.h>
```

```
void main() {  
    int N,S,K,x,i,j;  
    double T;  
    i=0;  
    j=1;  
    S=0;  
    T=0;  
    x=1;  
    scanf("%d",&N);  
    while(i<=N) {  
        S+=pow(2,i);  
        i++;  
    }  
    K=sqrt(S);  
    while(j<=K) {  
        T+=x*(1.0)/j;  
        x=-x;  
        j++;  
    }  
    printf("S=%d\n",S);  
    printf("T=%f\n",T);  
}
```



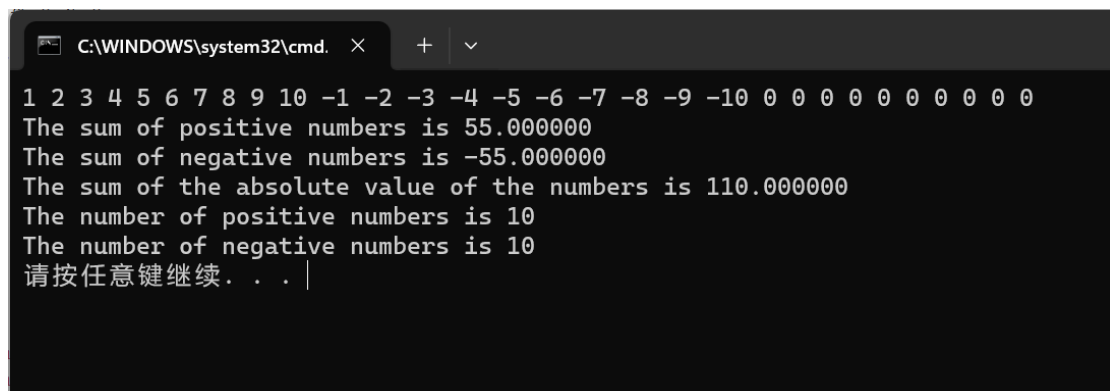
The screenshot shows a Windows command prompt window with the title bar "C:\WINDOWS\system32\cmd." and standard window controls. The window has a dark background with white text. The output of the program is displayed as follows:

```
5  
S=63  
T=0.759524  
请按任意键继续. . . |
```

7.

```
#include<stdio.h>
#include<math.h>

void main() {
    double x, zh, fh, jh;
    int zg, fg, i;
    i=1;
    zg=0; fg=0; zh=0; fh=0; jh=0;
    while(i<31) {
        scanf("%lf", &x);
        jh+=fabs(x);
        if(x>0) {
            zh+=x;
            zg++;
        }
        if(x<0) {
            fh+=x;
            fg++;
        }
        i++;
    }
    printf("The sum of positive numbers is %f\n", zh);
    printf("The sum of negative numbers is %f\n", fh);
    printf("The sum of the absolute value of the numbers is %f\n", jh);
    printf("The number of positive numbers is %d\n", zg);
    printf("The number of negative numbers is %d\n", fg);
}
```



```
C:\WINDOWS\system32\cmd.  ×  +  ∨
1 2 3 4 5 6 7 8 9 10 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 0 0 0 0 0 0 0 0 0 0
The sum of positive numbers is 55.000000
The sum of negative numbers is -55.000000
The sum of the absolute value of the numbers is 110.000000
The number of positive numbers is 10
The number of negative numbers is 10
请按任意键继续. . . |
```

9.

```
#include<stdio.h>
#include<math.h>

void main() {
    int a, b, c, d, e;
    for(a=0; a<2; a++) {
```

```

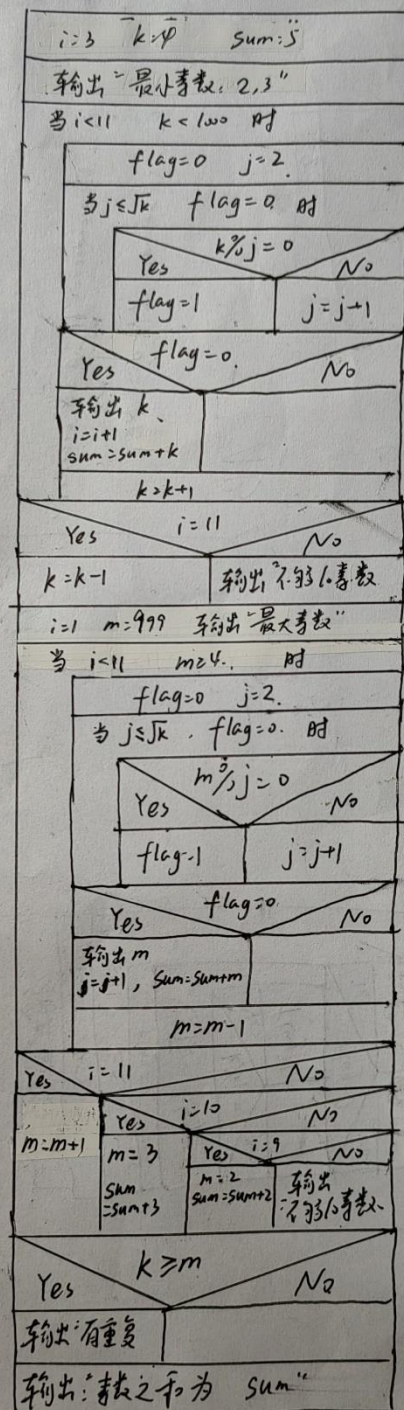
        for(b=0;b<2;b++) {
            for(c=0;c<2;c++) {
                for(d=0;d<2;d++) {
                    for(e=0;e<2;e++) {
if((a&&b+c+d+e==1||!a&&b+c+d+e!=1)&&(b&&a&&c&&d&&e||!b&&a+c+d+e!=4)&&(c&&a+b+d+e==3||!c
&&a+b+d+e!=3)&&(d&&!a&&!b&&!c&&!e||!d&&a+b+c+e!=0)) {
    printf("A is %s\n",a?"black":"white");
    printf("B is %s\n",b?"black":"white");
    printf("C is %s\n",c?"black":"white");
    printf("D is %s\n",d?"black":"white");
    printf("E is %s\n",e?"black":"white");
}
            }
        }
    }
}

```

```

C:\WINDOWS\system32\cmd.
A is black
B is white
C is white
D is white
E is black
请按任意键继续. . .

```



```
#include<stdio.h>
```

```
#include<math.h>
```

```
void main() {
```

```
    int i, k, sum, flag, m, j;
```

```

i=3;k=4;sum=5;
printf("最小素数:  2 3"); //2, 3单独考虑, 因为2, 3开根号小于2
while(i<11&& k<1000) {
    flag=0;j=2;
    while(j<=sqrt(k)&&flag==0) {
        if(k%j==0) flag=1;
        else j=j+1;
    }
    if(!flag) {
        printf(" %d",k);
        i++;
        sum+=k;
    }
    k++;
}
if(i==11) k--;
else printf("不够10个最小素数"); //不够10个素数时i取不到11
i=1;m=999;
printf("\n最大素数: ");
while(i<11&&m>=4) {
    flag=0;j=2;
    while(j<=sqrt(m)&&flag==0) {
        if(m%j==0) flag=1;
        else j=j+1;
    }
    if(!flag) {
        printf(" %d",m);
        i++;
        sum+=m;
    }
    m--;
}
if(i=11) m=m+1;
else if(i=10) { m=3;sum+=3;} //i=10时4以上9个素数, 则最后一个为3
else if(i=9) {m=2;sum+=5;} //i=9时4以上8个素数, 最后两个为3, 2
else printf("不够10最大素数");
if(k>=m) printf("最大10个素数与最小10个间有重复");
printf("\n素数之和为 %d\n",sum); //k为最小素数组中最大值, m为最大素数组中最小
值
}

```

```
C:\WINDOWS\system32\cmd. X + v
最小素数: 2 3 5 7 11 13 17 19 23 29
最大素数: 997 991 983 977 971 967 953 947 941 937
素数之和为 9793
请按任意键继续. . . |
```