```c
#include <stdio.h>
#include <math.h>
#include <conio.h>
#include <stdlib.h>
void nhap(FILE *f, int n, int *a){
    for(int i=0;i<n;i++){
        fscanf(f,"%d\n",a+i);
    }
}
void xuat( int n, int *a){
    printf ("%d\n",n);
    for(int i=0;i<n;i++){
        printf("%d\n",a[i]);
    }
}
int main(){
    FILE *f;
    f = fopen ("nhap.txt","r");
    int *a;int n;
    fscanf(f,"%d\n",&n);
    a = (int *)malloc((n+1) *sizeof(int ));
    nhap(f,n,a);
    xuat( n, a);
    fclose(f);
}
```

```c
#include<stdio.h>
#include<math.h>
#include<stdlib.h>
void nhap(FILE *f, int n , int m, float *a, float *b);
float tinh(int n, float *a, int d1);
void Hieu(float*a,float *b,int n,float *c, int m);
int main(){
    FILE*f;
    float *a,*b, *c;float p,q;
    int n,m, d1,d2;
    f= fopen("input.txt", "r");
    fscanf(f,"%d %d", &n,&m);
    // cap phat bo nho
    a=(float*)malloc((n+1)*sizeof(int));
    b=(float*)calloc(m+1,sizeof(int));
    nhap(f,n,m,a,b);
    fclose(f);
    scanf ("%d%d",&d1,&d2);
    f=fopen("output.txt","w");
    printf ( "px / qx = %f",tinh(n,a,d1)/tinh(m,b,d2));
    fprintf (f, "px / qx = %f",tinh(n,a,d1)/tinh(m,b,d2));
    fclose(f);
    Hieu(a,b,n,c,m);
}
void nhap(FILE *f, int n , int m, float *a, float *b){
    for (int i=0;i<=n; i++) fscanf(f,"%f", a+i);
    for (int i =0;i<=m;i++) fscanf(f,"%f" , b+i);
}
float tinh(int n, float *a, int d1){
```

```
}
float tinh(int n, float *a, int d1){
    float p =0;
    for(int i=0;i<=n;i++) {
        p=p+a[i]*pow(d1,i);
    }
return p;
}
void Hieu(float*a,float *b,int n,float *c, int m)
{   int k,i;
    if(n>m) {
       k=n;
       for(i=0;i<=m;i++){
          c[i]=a[i]-b[i];}

       for(i=m+1;i<=n;i++) c[i]=a[i];
    }else{
       k=m;
       for(i=0;i<=n;i++){
          c[i]=b[i]-a[i];}
       for(i=n+1;i<=m;i++) c[i]=-b[i];
       }
       for(i =0 ;i<= k;i++){
       printf ( " %d " , c[i]);}}

```

```c
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
//  bai 2
void nhap(FILE *f, float *a, int m, int n,int N);
void xuat(float *a, int m, int n,int N) ;
void xuattep(FILE *f1,float *a, int m, int n,int N);
float trungbc(float *a, int m, int n,int N );
float timamdau(float *a, int m, int n,int N);
void ammax(float *a, int m, int n,int N);
void ammaxfile(FILE *f1,float *a, int m, int n,int N);
void tichhangvamin(float *a, int m, int n,int N);
void filetichhangvamin(FILE *f1,float *a, int m, int n,int N);
int countduong(float *a, int m, int n,int N);

int main() {
    FILE *f, *f1;
    f= fopen ("matran.txt","r");
    int m, n;
    float **a;
    fscanf(f,"%d %d\n",&m,&n);
    a = (float **)malloc(m *sizeof(int *));
    for (int j=0 ; j<n ; j++){
        a[j]= (float *)malloc (n *sizeof(int));
    }
    nhap(f, *a, m, n, 50);
    fclose(f);
```

```
25      }
26      nhap(f, *a, m, n, 50);
27      fclose(f);
28      xuat(*a,m,n, 50);
29      f1= fopen ("xuatmatran.txt","w");
30      xuattep(f1,*a,m,n, 50);
31      printf ( "trung binh cong cac so am cua ma tran la %0.5f",trungbc(*a, m,n,50) );
32      fprintf (f1, "trung binh cong cac so am cua ma tran la %0.5f",trungbc(*a, m,n,50) );
33      timamdau(*a,m,n,50);
34      ammax( *a,m, n,50);
35      fprintf (f1,"\nphan tu am dau tien cua ma tran la %f",timamdau(*a,m,n,50));
36      ammaxfile(f1,*a, m,n,50);
37      tichhangvamin(*a, m,  n, 50);
38      filetichhangvamin(f1, *a, m,  n,50);
39      printf ("so phan tu duong cua ma tran la %d",countduong(*a,m, n,50));
40      public int __cdecl printf (const char * __restrict__ _Format, ...)ntduong(*a,m, n,50));
41      fclose(f1);
42      free (a);
43  }
44  void nhap(FILE *f, float *a, int m, int n,int N){
45      for (int i=0; i<m;i++){
46          for (int j=0 ; j<n ; j++){
47              fscanf (f,"%f  ", a+i*N+j);
48          }
49      }
50  }
```

```
}
void xuat(float *a, int m, int n,int N){
    printf ("ma tran vua nhap la :\n");
    printf ("%d %d\n",m,n);
    for (int i=0; i<m;i++){
        for (int j=0 ; j<n ; j++){
            printf ("%1.f ", *(a+i*N+j));
        }
        printf ("\n");
    }
}
void xuattep(FILE *f1,float *a, int m, int n,int N){
    fprintf (f1,"%d %d\n",m,n);
    for (int i=0; i<m;i++){
        for (int j=0 ; j<n ; j++){
            fprintf (f1,"%1.f ", *(a+i*N+j));
        }
        fprintf (f1,"\n");
    }
}
float trungbc(float *a, int m, int n,int N ){
    float sum = 0;
    int count = 0;
    for (int i=0; i<m;i++){
        for (int j=0 ; j<n ; j++){
            if ( *(a+i*N+j) < 0){
                sum +=*(a+i*N+j);
```

```
74          for (int j=0 ; j<n ; j++){
75              if ( *(a+i*N+j) < 0){
76                  sum +=*(a+i*N+j);
77                  count ++;
78              }
79          }
80      }return sum/count;
81  }
82  float timamdau(float *a, int m, int n,int N){
83      for (int i=0; i<m;i++){
84          for (int j=0 ; j<n ; j++){
85              if ( *(a+i*N+j) < 0) return *(a+i*N+j);
86          }
87      }
88  }
89  void ammax(float *a, int m, int n,int N){
90      float max = timamdau(a,m,n,50);
91      int luui,luuj;
92      for (int i=0; i<m;i++){
93          for (int j=0 ; j<n ; j++){
94              if ( *(a+i*N+j) < 0 && *(a+i*N+j) > max){
95                  max = *(a+i*N+j); luui = i; luuj = j;
96              }
97          }
98      }
99      printf ("\n gia tri am lon nhat la a[%d][%d] = %.1f",luui,luuj,max);
100 }
```

```
100 }
101 void ammaxfile(FILE *f1,float *a, int m, int n,int N){
102     float max = timamdau(a,m,n,50);
103     int luui,luuj;
104     for (int i=0; i<m;i++){
105         for (int j=0 ; j<n ; j++){
106             if ( *(a+i*N+j) < 0 && *(a+i*N+j) > max){
107                 max = *(a+i*N+j); luui = i; luuj = j;
108             }
109         }
110     }
111     fprintf (f1,"\n gia tri am lon nhat la a[%d][%d] = %.1f",luui,luuj,max);
112 }
113 void tichhangvamin(float *a, int m, int n,int N){
114     int count = 0;
115     float t[50];
116     for (int i=0; i<m;i++){
117         t[i] = 1;
118         for (int j=0 ; j<n ; j++){
119             t[i] *= *(a+i*N+j);
120         }
121         printf ("\ntich hang thu %d la %.1f ",count, t[i]);
122         count ++;
123     }
124     float min = t[0]; int k;
125     for (int i=0; i<m;i++){
126         for (int j=0 ; j<n ; j++){
```

```
126         for (int j=0 ; j<n ; j++){
127             if ( min > t[i]){
128                 min =  t[i];
129                 k=i;
130             }
131         }
132     }
133     for (int i=0; i<m;i++){
134         if ( min == t[i]) printf("\ntich min la cua hang thu %d = %.1f\n", k, min);
135     }
136 }
137 void filetichhangvamin(FILE *f1,float *a, int m, int n,int N){
138     int count = 0;
139     float t[50];
140     for (int i=0; i<m;i++){
141         t[i] = 1;
142         for (int j=0 ; j<n ; j++){
143             t[i] *= *(a+i*N+j);
144         }
145         fprintf (f1,"\ntich hang thu %d la %.1f ",count, t[i]);
146         count ++;
147     }
148     float min = t[0]; int k;
149     for (int i=0; i<m;i++){
150         for (int j=0 ; j<n ; j++){
```

```
147     }
148     float min = t[0]; int k;
149     for (int i=0; i<m;i++){
150         for (int j=0 ; j<n ; j++){
151             if ( min > t[i]){
152                 min =  t[i];
153                 k=i;
154             }
155         }
156     }
157     for (int i=0; i<m;i++){
158         if ( min == t[i]) fprintf(f1,"\ntich min la cua hang thu %d = %.1f\n", k, min);
159     }
160 }
161 int countduong(float *a, int m, int n,int N){
162     int count = 0;
163     for (int i=0; i<m;i++){
164         for (int j=0 ; j<n ; j++){
165             if (*(a+i*N+j) > 0 ) count ++;
166         }
167     }
168     return count;
169 }
```

```c
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
//  bai 1.3
void nhap(FILE *f, float *x, float *y, int n);
void xuat( float *x, float *y, int n);
void xuatfile( FILE *f1,float *x, float *y, int n);
void khoangcach(float *x, float *y, int n);
void filekhoangcach(FILE *f1,float *x, float *y, int n);
void doanainhat(float *x, float *y, int n);
void filedoanainhat(FILE *f1,float *x, float *y, int n);

int main () {
    FILE *f,*f1;
    f = fopen( "toado.txt", "r");
    float *x,*y; int n;
    fscanf(f,"%d\n",&n);
    x = (float *)malloc((n+1) *sizeof(int ));
    y = (float *)malloc((n+1) *sizeof(int ));
    nhap(f, x, y,n);
    fclose(f);
    xuat( x, y, n);
    f1=fopen ("xuattoado.txt","w");
    xuatfile( f1,x,y,n);
    khoangcach(x, y, n);
    filekhoangcach(f1,x,y,n);
    doanainhat(x, y,n);
```

```
26      filekhoangcach(f1,x,y,n);
27      doanainhat(x, y,n);
28      filedoanainhat(f1,x,y,n);
29      fclose(f1);
30      free(x);
31      free(y);
32  }
33  void nhap(FILE *f, float *x, float *y, int n){
34      for (int i =0;i<n;i++){
35          fscanf ( f, "(%f,%f)\n", &x[i],&y[i]);
36      }
37  }
38  void xuat( float *x, float *y, int n){
39      printf ( "ma tran cua nhap la :\n");
40      printf ( "%d\n",n);
41      for (int i =0;i<n;i++){
42          printf ("(%.0f,%.0f)\n", x[i],y[i]);
43      }
44  }
45  void xuatfile( FILE *f1,float *x, float *y, int n){
46      fprintf ( f1,"ma tran cua nhap la : \n");
47      fprintf ( f1,"%d\n",n);
48      for (int i =0;i<n;i++){
49          fprintf (f1,"(%.0f,%.0f)\n", x[i],y[i]);
50      }
51  }
```

```
51  }
52  void khoangcach(float *x, float *y, int n){
53      float d;
54      printf (" khoang cach cac diem den truc hoanh la :\n");
55      for (int i =0;i<n;i++){
56          d = abs(y[i]);
57          printf ("d((x[%d],y[%d])) = %.3f\n", i,i,d);
58      }
59  }
60  void filekhoangcach(FILE *f1,float *x, float *y, int n){
61      float d;
62      fprintf (f1," khoang cach cac diem den truc hoanh la :\n");
63      for (int i =0;i<n;i++){
64          d = abs(y[i]);
65          fprintf (f1,"d((x[%d],y[%d])) = %.1f\n", i,i,d);
66      }
67  }
68  void doanainhat(float *x, float *y, int n){
69      float s[50][50];
70      float max = s[0][0];
71      int a,b;
72      for (int i =0;i<n-1;i++){
73          for (int j =i+1;j<n;j++){
74              s[i][j] = sqrt(pow(x[i]-x[j],2)+pow(y[i]-y[j],2));
75          }
76      }
```

```
    }
    for (int i =0;i<n-1;i++){
        for (int j =i+1;j<n;j++){
            if (s[i][j] > max){
                max = s[i][j];
                a=i; b=j;
            }
        }
    }
    printf ( "\n do dai doan thang dai nhat giua n diem la x[%d]y[%d] --> x[%d]y[%d] = %.f", a,a,b,b,max);
}
```

```
84      }
85      printf ( "\n do dai doan thang dai nhat giua n diem la x[%d]y[%d] --> x[%d]y[%d] = %.f", a,a,b,b,max);
86  }
87  void filedoanainhat(FILE *f1,float *x, float *y, int n){
88      float s[50][50];
89      float max = s[0][0];
90      int a,b;
91      for (int i =0;i<n-1;i++){
92          for (int j =i+1;j<n;j++){
93              s[i][j] = sqrt(pow(x[i]-x[j],2)+pow(y[i]-y[j],2));
94          }
95      }
96      for (int i =0;i<n-1;i++){
97          for (int j =i+1;j<n;j++){
98              if (s[i][j] > max){
99                  max = s[i][j];
100                 a=i; b=j;
101             }
102         }
103     }
104     fprintf (f1, "\n do dai doan thang dai nhat giua n diem la x[%d]y[%d] --> x[%d]y[%d] = %.f", a,a,b,b,max);
105 }
```

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```c
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
//  bai 1.4 hinh chu nhat
void nhap(FILE *f, float *x, float *y, int n);
void xuat( float *x, float *y, int n);
void xuatfile(FILE *f1, float *x, float *y, int n);
float dientichtb(float *x, float *y, int n);
void timsmax(float *x, float *y, int n);
void filetimsmax(FILE *f1,float *x, float *y, int n);

int main () {
    FILE *f,*f1;
    f = fopen( "chunhat.txt", "r");
    float *x,*y; int n;
    fscanf(f,"%d\n",&n);
    x = (float *)malloc((n+1) *sizeof(int ));
    y = (float *)malloc((n+1) *sizeof(int ));
    nhap(f, x, y,n);
    fclose(f);
    f1 = fopen( "xuatchunhat.txt", "w");
    xuat( x, y, n);
    xuatfile(f1,x,y,n);
    printf ("\ndien tich trung binh cua cac hcn la %.3f",dientichtb(x, y, n));
    fprintf(f1,"\ndien tich trung binh cua cac hcn la %.3f",dientichtb(x, y, n));
    timsmax(x, y, n);
```

```c
    fprintf(f1,"\ndien tich trung binh cua cac hcn la %.3f",dientichtb(x, y, n));
    timsmax(x, y, n);
    filetimsmax(f1,x,y,n);
    fclose(f1);
    free(x);
    free(y);
}
void nhap(FILE *f, float *x, float *y, int n){
    for (int i =0;i<n;i++){
        fscanf ( f, "%f,%f\n", &x[i],&y[i]);
    }
}
void xuat( float *x, float *y, int n){
    printf ( "cac hinh chu nhat vua nhap la :\n");
    printf ( "%d\n",n);
    for (int i =0;i<n;i++){
        printf ("%.1f,%.1f\n", x[i],y[i]);
    }
}
void xuatfile(FILE *f1, float *x, float *y, int n){
    fprintf (f1, "cac hinh chu nhat vua nhap la :\n");
    fprintf (f1, "%d\n",n);
    for (int i =0;i<n;i++){
        fprintf (f1,"%.1f,%.1f\n", x[i],y[i]);
    }
}
```

```
}
float dientichtb(float *x, float *y, int n){
    float s= 0;
    for (int i =0;i<n;i++){
        s += x[i]*y[i];
    }
    return s/n;
}
void timsmax(float *x, float *y, int n) {
    float max = x[0]*y[0];
    int a;
    float b,c;
    for (int i =0;i<n;i++){
        if ( x[i]*y[i] > max  ) {
            max = x[i]*y[i];
            a = i;
            b = x[i];
            c = y[i];
        }
    }
    printf ("\n\nhcn co dien tich max la hing thu %d co kich thuoc %.1f,%.1f la %.2f ", a,b,c,max);
}
```

```
    }
    printf ("\n\nhcn co dien tich max la hing thu %d co kich thuoc %.1f,%.1f la %.2f ", a,b,c,max);
}
void filetimsmax(FILE *f1,float *x, float *y, int n) {
    float max = x[0]*y[0];
    int a;
    float b,c;
    for (int i =0;i<n;i++){
        if ( x[i]*y[i] > max  ) {
            max = x[i]*y[i];
            a = i;
            b = x[i];
            c = y[i];
        }
    }
    fprintf (f1,"\n\nhcn co dien tich max la hinh thu %d co kich thuoc %.1f,%.1f la %.2f ", a,b,c,max);
}
```

```
public int __cdecl fprintf (FILE * __restrict__ _File, const char * __restrict__ _Format, ...)
```

```c
#include <stdio.h>
#include <string.h>
#include <conio.h>
#include <stdlib.h>
//2.1
struct sinhvien {
    char ht[30];
    float sd;
    char dv[30];
};
typedef sinhvien sv;

void read(FILE *f, sv *a1,int n);
void xuatfile(FILE *f1,sv *a1,int n);
void tong(FILE *f1,sv *a1,int n);
void tim(FILE *f1,sv *a1,int n);

int main (){
    FILE *f,*f1;
    f= fopen("input.txt","r");
    int n; sinhvien *a1;
    fscanf(f,"%d\n",&n);
    a1= (sinhvien*)malloc((n+1)*sizeof(sinhvien));
    read(f,a1,n);
    fclose(f);
    f1=fopen("output.txt","w");
    xuatfile(f1,a1,n);
```

```
28      tong (f1,a1,n);
29      tim(f1,a1,n);
30      fclose(f1);
31  }
32  void read(FILE *f, sv *a1,int n){
33      for (int i=0; i<n; i++){
34          fscanf(f,"%[^\n]\n", a1[i].ht);fflush(stdin);
35          fscanf(f,"%f\n", &a1[i].sd);
36          fscanf(f,"%[^\n]\n", a1[i].dv);
37      }
38  }
39  void xuatfile(FILE *f1,sv *a1,int n){
40      fprintf(f1,"%d\n",n);
41      for (int i=0; i<n; i++){
42          fprintf(f1,"%s\n", a1[i].ht);fflush(stdin);
43          fprintf(f1,"%.1f\n", a1[i].sd);
44          fprintf(f1,"%s\n", a1[i].dv);
45      }
46  }
47  void tong(FILE *f1,sv *a1,int n){
48      float ta=0,tb=0,tc=0;
49      for (int i=0; i<n; i++){
50          if (strcmp(a1[i].dv, "A")==0) ta +=a1[i].sd;
51          if (strcmp(a1[i].dv, "B")==0) tb +=a1[i].sd;
```

```
50          if (strcmp(a1[i].dv, "A")==0) ta +=a1[i].sd;
51          if (strcmp(a1[i].dv, "B")==0) tb +=a1[i].sd;
52          if (strcmp(a1[i].dv, "C")==0) tc +=a1[i].sd;
53      }
54      fprintf(f1,"diem cua don vi a la %.1f",ta);
55      fprintf(f1,"\ndiem cua don vi b la %.1f",tb);
56      fprintf(f1,"\ndiem cua don vi c la %.1f\n",tc);
57      if (ta > tb && ta>tc) fprintf ( f1,"don vi a co diem lon nhat");
58      if ( tb>ta && tb>tc) fprintf ( f1,"don vi b co diem lon nhat");
59      if (tc>ta&&tc>tb) fprintf ( f1,"don vi c co diem lon nhat");
60  }
61  void tim(FILE *f1,sv *a1,int n){
62      fprintf (f1,"\n3 thi sinh co diem cao nhat la \n");
63      sv k;
64      for (int i=0; i<n-1; i++){
65          for (int j=i+1; j<n; j++){
66              if (a1[i].sd < a1[j].sd){
67                  k = a1[i];
68                  a1[i] = a1[j];
69                  a1[j] = k;
70              }
71          }
72      }
73      for (int i=0;i<3;i++){
74      fprintf(f1,"%s %.1f %s \n", a1[i].ht,a1[i].sd ,a1[i].dv);}
75  }
```

```c
#include <stdio.h>
#include <string.h>
#include <conio.h>
#include <stdlib.h>

struct sach {
    char tens[30];
    char nxb[30];
    int gia;
};
typedef sach s;

void read(FILE *f, s *a,int n);
void xuat(s *a,int n);
void dem(s *a,int n, char *ten);
void xuatfile(FILE *f1,s *a,int n);
void swap(s *a, int n);

```

```c
int main (){
    FILE *f,*f1;char ten[30];
    int n;
    f= fopen ("input.txt", "r");
    sach *a;
    fscanf(f,"%d\n",&n);
    a= (sach*)malloc((n+1)*sizeof(sach));
    read(f,a,n);
    xuat(a,n);
    fclose(f);
    printf("\n");
    fflush(stdin); gets(ten);
    dem(a,n, ten);
    f1=fopen("output.txt","w");
    xuatfile(f1,a, n);
    printf ("\n\n");
    swap(a,  n);
    xuat(a,n);
    fclose(f1);
    free(a);
}
```

```c
void read(FILE *f, s *a,int n){
    for (int i=0; i<n; i++){
        fscanf(f,"%[^\n]\n", a[i].tens);fflush(stdin);
        fscanf(f,"%[^\n]\n", a[i].nxb);
        fscanf(f,"%d\n", &a[i].gia);
    }
}
void xuat(s *a,int n){
    printf("%d\n",n);
    for (int i=0; i<n; i++){
        printf("%s\n", a[i].tens);fflush(stdin);
        printf("%s\n", a[i].nxb);
        printf("%d\n", a[i].gia);
    }
}
void dem(s *a,int n,char* ten){
    int dem = 0;
    for (int i=0; i<n; i++){
        if ( strcmp(a[i].nxb , ten ) == 0) {
        dem+=1 ;
        }
    }
    printf ("\nso cuon sach co nha xuat ban ten %s la %d ",ten,dem);
}
```

```
63  }
64  void xuatfile(FILE *f1,s *a,int n){
65      fprintf(f1,"%d\n",n);
66      for (int i=0; i<n; i++){
67          fprintf(f1,"%s\n", a[i].tens);fflush(stdin);
68          fprintf(f1,"%s\n", a[i].nxb);
69          fprintf(f1,"%d\n", a[i].gia);
70      }
71  }
72  void swap(s *a, int n) {
73      s k;
74      for (int i=0; i<n-1; i++){
75          for (int j=i+1; j<n; j++){
76              if (a[i].gia < a[j].gia){
77                  k = a[i];
78                  a[i] = a[j];
79                  a[j] = k;
80              }
81          }
82      }
83  }
```

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```c
#include <string.h>
#include <stdio.h>
#include <conio.h>
#include <stdlib.h>
//2,5
struct oto {
    int bks;
    float tt;
    char cty[30];
};

typedef oto o;

void readfile(FILE *f, o *a,int n){
    for (int i=0;i<n;i++){
        fscanf(f,"%d\n",&a[i].bks);
        fscanf(f,"%f\n",&a[i].tt);
        fscanf(f,"%[^\n]\n",a[i].cty);fflush(stdin);
    }
}
void xuatfile(FILE *f1,o *a, int n){
    fprintf(f1,"%d\n",n);
    for (int i=0;i<n;i++){
        fprintf(f1,"%d\n",a[i].bks);fflush(stdin);
        fprintf(f1,"%.1f\n",a[i].tt);
        fprintf(f1,"%s\n",a[i].cty);
    }
```

```
}
void count(FILE *f1,o *a, int n){
    int count=0;
    for (int i=0;i<n;i++){
        if (strcmp(a[i].cty,"B") ==0 && a[i].bks % 3 ==0){
            count ++;
        }
    }fprintf (f1, "so o to cua cong ty b co bks chia het 3 la %d",count);
}
void tim(FILE *f1,o *a,int n){
    fprintf (f1,"\n3 oto co trong tai nho nhat la \n");
    o k;
    for (int i=0; i<n-1; i++){
        for (int j=i+1; j<n; j++){
            if (a[i].tt > a[j].tt){
                k = a[i];
                a[i] = a[j];
                a[j] = k;
            }
        }
    }
    for (int i=0;i<3;i++){
    fprintf(f1,"%d %.1f %s \n", a[i].bks,a[i].tt ,a[i].cty);}
}
```

```
51  }
52  int main (){
53      FILE *f,*f1;
54      f = fopen ("oto.txt","r");
55      int n;
56      oto *a;
57      fscanf(f,"%d\n",&n);
58      a = (oto *)malloc((n+1) *sizeof(oto ));
59      readfile(f,a,n);
60      fclose(f);
61      f1=fopen ("output.txt","w");
62      xuatfile(f1,a,n);
63      count(f1,a, n);
64      tim(f1,a,n);
65      fclose(f1);
66  }
```