**1-1**

void main()

{int i1,i2;

fpos\_t \*n1=0,\*n2=0;

FILE \*f1,\*f2,\*f3;

f1=fopen("vozr.bin","rb");

f2=fopen("ybiv.bin","rb");

f3=fopen("ccc.bin","w+b");

fread (&i1,sizeof (int),1,f1);

fseek (f2,-sizeof(int),2);

fgetpos (f2,n2);

fsetpos (f2,n2);

fread (&i2,sizeof(int),1,f2);

do

{if (i1<i2)

{while (!feof(f1) && i1<i2)

{fwrite (&i1,sizeof(int),1,f3);

fread (&i1,sizeof(int),1,f1);

}

if (feof(f1) && i1<i2)

{fwrite (&i1,sizeof(int),1,f3);

i1=MAXINT;

}

}

else

{while (\*n2!=0 && i1>=i2)

{fwrite (&i2,sizeof(int),1,f3);

\*n2-=sizeof(int);

fsetpos (f2,n2);

fread (&i2,sizeof(int),1,f2);

}

if (\*n2==0 && i1>=i2)

{fwrite (&i2,sizeof(int),1,f3);

i2=MAXINT;

}

}

}while (!feof(f1)||\*n2!=0);

if(i1!=MAXINT) fwrite (&i1,sizeof (int),1,f3);

if(i2!=MAXINT) fwrite (&i2,sizeof (int),1,f3);

fcloseall();

}

**1-2**

typedef struct tree{

int x;

tree \*l, \*r;

};

void out (tree \*p)

{

if(p->l) out(p->l)

printf ("%5.d",p->x);

if(p->r) out(p->r);

}

**2-1**

void main()

{FILE \*f,\*f1,\*f2;

long l1,l2;

int i1,i2;

f1=fopen ("aaa.txt","r");

f2=fopen ("bbb.txt","r")

f3=fopen ("ccc.txt","w");

l1=filelength(fileno(f1));

l2=filelength(fileno(f2));

while (l1!=0 || l2!=0)

{if (l1>0)

{fseek (f1,-sizeof(int),2)

fscanf (f1,"%d",i1);

}

else i1=MAXINT;

if (l2>0)

{fseek (f2,-sizeof(int),2);

fscanf (f2,"%d",i2);

}

else i2=MAXINT;

if (i1>=i2)

{fprintf (f3,"%d",i1);

chsize (fileno(f1),l1-sizeof(int));

l1=filelength(fileno(f1));

}

else

{fprintf (f3,"%d",i2);

chsize (fileno(f2),l2-sizeof(int));

l2=filelength(fileno(f2));

}

}

fcloseall();

}

**2-2**

typedef struct TREE

{int num;

TREE \*l, \*r;

};

void del(TREE\*\*,int);

void main()

{TREE \*root=NULL;

int n;

cout<<"какой номер удалять?"<<endl;

cin>>n;

del (&root,n);

}

void del (TREE \*\*cur,int n)

{TREE \*lt, \*rt;

if (!\*cur) return;

if (n<(\*cur)->num) del ((\*cur)->l,n);

else

if (n>(\*cur)->n) del ((\*cur)->r,n);

else

{lt=(\*cur)->l;

rt=(\*cur)->r;

delete \*cur;

\*cur=rt;

while(\*cur) cur=&(\*cur)->l;

\*cur=lt;

}

}

**3-1-VSTAVKA**

void main()

{FILE \*f;

int i=1,j,k,kk,flag=0,ind;

f=fopen("aaa.txt","r+");

while(1)

{fseek (f,3\*i,0);

fscanf (f,"%3d",&k);

if (feof(f)) flag=1;

j=i-1;

fseek (f,3\*j,0);

fscanf (f,"%3d",&kk);

ind=0;

while (j>=0 && k<kk)

{fseek (f,3\*(j+1),0);

fprintf (f,"%3d",kk);

j--;

if (j<=0) rewind(f);

else fseek (f,3\*j,0);

fscanf (f,"%3d",&kk);

ind=1;

}

if (ind)

{fseek (f,3\*(j+1),0);

fprintf (f,"%3d",k);

}

if (flag) break;

i++;

}

fclose(f);

}

**3-1 otbor**

void main()

{FILE \*f;

fpos\_t l1,l2,l3;

int j,k,kk,kkk;

f=fopen ("aaa.txt","r+");

while(1)

{fgetpos (f,&l1);

fscanf (f,"%3d",&k);

if (feof(f)) break;

l3=l1; kkk=k;

while(1)

{fgetpos(f,&l2);

fscanf(f,"%3d",&kk);

if (kk<kkk) {l3=l2;kkk=kk;}

if (feof(f)) break;

}

if (l1!=l3)

{fsetpos (f,&l3);

fprintf (f,"%3d",k);

fsetpos (f,&l1);

fprintf (f,"%3d",kkk);

}

l1+=3;

fsetpos (f,&l1);

}

fclose(f);

}

**3-2**

struct node

{node \*l,\*r;

int i,f;

};

struct stack

{node \*p;

int fl;

stack\*next;

};

void push(stack \*\*s, node \*n);

void pop(stack \*\*s, node \*\*n);

void main(void)

{stack \*s;s=NULL;

node \*p,\*root;int f=0;

p=root;

do

{cout<<p->i<<'\_';

if(p->l && f==0)

{push (&s,p,1); f=0;

p=p->l;continue;

}

if(p->r && f<=1)

{push (&s,p,2); f=0;

p=p->r;continue;

}

f=pop(&s, &p);

}while(s);

}

void push(stack \*\*s,node \*n,int f)

{stack \*t;

t=new stack;

t->p=n;t->fl=f;

if(!\*s) t->next=NULL;

else t->next=\*s;

\*s=t;

}

int pop(stack \*\*s,node \*\*n)

{if(!\*s) return;

stack \*t,\*p;

p = \*s;

f=p->fl

\*s=(\*s)->next;

\*n=p->p;

if(p) delete p;

return f;

}

**4-1**

void main()

{FILE \*f;

int i,j,i1,i,fd;

long l,number;

f=fopen("ccc.bin","r+b");

rewind(f);

fd=fileno(f);

l=filelength(fd);

number=l/sizeof(int);

for(i=0;i<number;i++)

{fseek (f,i\*sizeof(int),0);

fread (&i1,sizeof(int),1,f);

j=i-1;

if(j>=0)

{fseek (f,j\*sizeof(int),0);

fread (&i2,sizeof(int),1,f);

}

while(j>=0 && i1<i2)

{fseek (f,(j+1)\*sizeof(int),0);

fwrite (&i2,sizeof(int),1,f);

j--;

fseek (f,j\*sizeof(int),0);

fread (&i2,sizeof(int),1,f);

}

j++;

fseek (f,j\*sizeof(int),0);

fwrite(&i1,sizeof(int),1,f);

}

fclose(f);

}

**4-2**

typedef struct zap

{char inf[50];

zap \*l,\*r;

};

struct zap \*del (zap \*s)

{zap \*s1,\*s2;

char in[50];

if (!s)

{puts ("кольца нет");

return(s);

}

s1=s;

puts ("inf-?");

scanf ("%s",in);

do

{if (strcmp(s1->inf,in)) s1=s1->r;

else

{s2=s1->r;

s2->l=s1->l;

s2=s1->l;

s2->r=s1->r;

if ((s1==s)&&(s->l!=s)) s=s1->r;

free(s1);

return(s);

}

}while (s1!=s);

printf ("Такой записи нет");

return(s);

}

**5-1**

void main()

{FILE \*f;

int i,j,k;

fpos\_t L1,L2=0;

f=fopen ("aaa.txt","r+");

while (1)

{scanf("%d",&i);

if (i==-1) break;

rewind (f);

do

{fgetpos (f,&L1);

fscanf (f,"%d ",&j);

if (feof(f) || j>i) break;

}while (1);

if (feof(f) && j<i)

{rewind (f);

fseek (f,0,2);

fprintf(f,"%d ",i);

continue;

}

rewind (f);

fseek (f,-2,2);

k=1;

do

{fgetpos (f,&L2);

fscanf (f,"%d ",&j);

rewind (f);

L2+=2;

fsetpos (f,&L2);

fprintf (f,"%d ",j);

k++;

fseek (f,-2\*k-2,2);

}while (L1!=L2);

fsetpos (f,&L2);

fprintf (f,"%d ",i);

}

fclose (f);

}

**5-2**

struct node

{node \*l,\*r;

int i,f;

};

struct stack

{node \*p;

int fl;

stack\*next;

};

void push(stack \*\*s,node \*n);

void pop(stack \*\*s,node \*\*n);

void main(void)

{stack \*s;s=NULL;

node \*p,\*root;int f=0;

p=root;

do

{if(p->l && !f)

{push(&s,p,1);f=0;

p=p->l;continue;

}

if(p->r && f<=1)

{push(&s,p,2);f=0;

p = p->r;continue;

}

cout<<p->i<<'\_';

f=pop(&s,&p);

}while(s);

}

void push(stack \*\*s,node \*n,int f)

{stack \*t;

t=new stack;

t->p=n;t->fl=f;

if(!\*s) t->next=NULL;

else t->next=\*s;

\*s=t;

}

int pop(stack \*\*s,node \*\*n)

{

if(!\*s) return;

stack \*t,\*p;

p=\*s;

f=p->fl

\*s=(\*s)->next;

\*n=p->p;

if (p) delete p;

return f;

}

**6-1**

void main(int argc,char\* argv[])

{if (argc<3) return;

FILE\* f=fopen (argv[1],"rb+");

if (f==NULL) return;

int min=atoi (argv[2]);

int max=atoi (argv[3]);

int fr=0;

int tw=0;

for (;;)

{int v=fgetc(f);

if (v==EOF) break;

fseek (f,tw,0);

fputc (v,f);

fseek (f,++fr,0);

if (v<min || v>max) tw++;

}

chsize (fileno(f),tw);

fclose(f);

}

**6-2**

struct OCH

{char \*F;

OCH next;

};

void sort\_puz(struct OCH \*\*head)

{struct OCH \*cur,\*s,\*p,\*pr;

if(!\*head )

{cout<<"Stek pust"<<endl;return; }

cur=\*head;

while( cur->next)

{s=cur->next;pr=cur;

while( s)

{if(strcmp(cur->F,s->F)<=0)

pr=s;s=s->next;

}

else

{if (cur== \*head)

{\*head=s;

pr->next=s->next;

s->next=cur;

}

else

{p->next=s;

pr->next=s->next;

s->next=cur;

}

cur=s;

s=pr->next;

}

}

p=cur;

cur=cur->next;

}

}

**7-1**

typedef struct

{char fam[15];

char c1,c2,c3;

}TRec;

void main (int argc,char\* argv[])

{if (argc<2) return;

FILE\* f=fopen (argv[1],"rb+");

if (!f) return;

int flag=0,min;

for (;;)

{TRec r;

if (fread(&r,1,sizeof(r),f)==0) break;

if (flag==0)

{min=r.c1+r.c2+r.c3;

flag=1;continue;

}

int s=r.c1+r.c2+r.c3;

if (s<min) min=s;

}

rewind(f);

int from\_read=0;

int to\_write=0;

for (;;)

{TRec r;

fseek(f,from\_read,0);

if (fread(&r,1,sizeof(TRec),f)==0)

{rewind(f);

fseek(f,to\_write,0);

chsize(fileno(f),ftell(f));

break;

}

if (r.c1+r.c2+r.c3!=min)

{fseek(f,to\_write,0);

fwrite((void\*)&r,1,sizeof(r),f);

to\_write+=sizeof(TRec);

}

from\_read+=sizeof(TRec);

}

fclose(f);

}

**7-2**

typedef struct zap

{char inf[50];

zap \*l,\*r;

};

zap \*srt\_uk(zap \*s)

{zap \*s1;

int i;s1=s;

do

{if(strcmp(s1->inf,s1->r->inf)>0)

{if(s==s1)

s=s1->r;s1->l->r=s1->r;

s1->r=s1->r->r;s1->l->r->r=s1;

s1->l->r->l=s1->l;

s1->r->l=s1;s1->l=s1->l->r;

s1=s1->l;

if(s1!=s && strcmp(s1->l->inf,s1->inf)>0)

s1=s1->l;

}

else s1=s1->r;

}while(s1->r!=s);

return s;

}

**8-1**

void main()

{FILE \*f;

fpos\_t n1=0,n2=0;

int len=0,i=0;

char \*i1,\*i2;

i1=(char\*)calloc(4,sizeof(char\*));

i2=(char\*)calloc(4,sizeof(char\*));

f=fopen ("aaa.bin","r+b")

fseek (f,0,2);

fgetpos (f,&n2);

n2-=(4\*sizeof(char));

rewind(f);

len=filelength(fileno(f));

rewind(f);

while(1)

{fgetpos (f,&n1);

fread (i1,4,sizeof(char),f);

fsetpos (f,&n2);

fread (i2,4,sizeof(char),f);

fsetpos (f,&n1);

fwrite (i2,4,sizeof(char),f);

fsetpos (f,&n2);

fwrite (i1,4,sizeof(char),f);

n1+=(4\*sizeof(char));

n2-=(4\*sizeof(char));

fsetpos (f,&n1);i++;

if (i>=len/8) break;

}

fclose(f);

}

**8-1'**

void main()

{FILE \*f;

fpos\_t n1=0,n2=0;

int len=0,i=0;

char i1,i2;

f=fopen("aaa.bin","r+b")

fseek(f,0,2);

fgetpos(f,&n2);

n2-=(sizeof(char));

rewind(f);

len=filelength(fileno(f));

rewind(f);

while(1)

{fgetpos(f,&n1);

fread(&i1,1,sizeof(char),f);

fsetpos(f,&n2);

fread(&i2,1,sizeof(char),f);

fsetpos(f,&n1);

fwrite(&i2,1,sizeof(char),f);

fsetpos(f,&n2);

fwrite(&i1,1,sizeof(char),f);

n1+=(sizeof(char));

n2-=(sizeof(char));

fsetpos(f,&n1);i++;

if(i>=len/2)break;

}

fclose(f);

}

**8-2**

typedef struct kolco

{int inf;

kolco \*nx;

};

void del (kolco\*\*);

void main()

{kolco \*h=NULL;

del(&h);

}

void del (kolco \*\*h)

{int i;

kolco \*t,\*t1;

cout<<endl<<"Enter delite element"<<endl;

cin>>i;

t=\*h;

while(t->nx->inf!=i)

{if(t->nx==\*h)

{cout<<endl<<"Элемент не найден";return;}

t=t->nx;

}

if(t->nx==\*h)

if(t==\*h)

{free(\*h);

\*h=NULL;

return;

}

else \*h=t->nx->nx;

t1=t->nx;

t->nx=t->nx->nx;

free(t1);

}

**9-1**

void main()

{FILE \*f;

fpos\_t \*n1;

int i1,i2;

f=fopen ("aaa.bin","w+b")

rewind(f);

while(1)

{fgetpos (f,n1);

fread (&i1,1,sizeof(int),f);

if (feof(f)) break;

fread (&i2,1,sizeof(int),f);

if (feof(f)) break;

fsetpos(f,n1);

fwrite (&i2,1,sizeof(int),f);

fwrite (&i1,1,sizeof(int),f);

\*n1+=(2\*sizeof(int));

fsetpos (f,n1);

}

fclose(f);

}

**9-2**

typedef struct figure

{char fig;

double area;

union

{struct

{double x, y;

}p;

struct

{double r;

}o;

}u;

};

void main()

{figure f;

printf("p-прямоуг.,o-окружность");

scanf("%c",&f.fig);

switch(f.fig)

{case 'p':

printf("x? & y?\n");

scanf("%lf%lf",&f.u.p.x,&f.u.p.y);

f.area=f.u.p.x\*f.u.p.y;

printf("Площадь = %lf\n",f.area);

**10-1 OTBOR**

void main()

{FILE \*f;

long int i,j,m,kk,tmp,kol;

f=fopen ("ccc.bin","r+b");

rewind(f);

kol=filelength(fileno(f))/sizeof(long int);

for (i=0;i<kol-1;i++)

{m=i;

fseek (f,i\*sizeof(long int),0);

fread (&kk,sizeof(long int),1,f);

for (j=i+1;j<kol;j++)

{fseek (f,j\*sizeof(long int),0);

fread (&tmp,sizeof(long int),1,f);

if (tmp<kk) {m=j;kk=tmp;}

}

fseek (f,i\*sizeof(long int),0);

fread (&tmp,sizeof(long int),1,f);

fseek (f,m\*sizeof(long int),0);

fwrite (&tmp,sizeof(long int),1,f);

fseek (f,i\*sizeof(long int),0);

fwrite (&kk,sizeof(long int),1,f);

}

fclose(f);

}

**10-1 VSTAVOK**

void main()

{FILE \*f;

int i,j;

long i1,i2, kol;

f=fopen ("ccc.bin","r+b");

rewind(f);

kol=filelength(fileno(f))/sizeof(long int);

for (i=1;i<kol;i++)

{fseek (f,i\*sizeof(long int),0);

fread (&i1,sizeof(long int),1,f);

j=i-1;

fseek (f,j\*sizeof(long int),0);

fread (&i2,sizeof(long int),1,f);

while (j>=0 && i1<i2)

{fseek (f,(j+1)\*sizeof(long int),0);

fwrite (&i2,sizeof(long int),1,f);

j--;

fseek (f,j\*sizeof(long int),0);

fread (&i2,sizeof(long int),1,f);

}

fseek (f,(j+1)\*sizeof(long int),0);

fwrite(&i1,sizeof(long int),1,f);

}

fclose(f);

**10-2**

typedef struct QUEUE

{int n;

QUEUE \*next;

};

void del (QUEUE\*\*,int);

void main()

{QUEUE \*tail=NULL;

int n;

cout<<"Какой элемент удалить?"<<endl;

cin>>n;

del (&tail,n);

}

void del (QUEUE \*\*tail,int n)

{QUEUE \*cur,\*tmp;

cur=\*tail;

if ((\*tail)->n==n)

{delete \*tail;

\*tail=cur->next;

}

else

while (cur->next)

{if (cur->next->n==n)

{tmp=cur->next;

cur->next=cur->next->next;

delete tmp;

}

cur=cur->next;

}

}

**11-1**

void main()

{FILE \*f1,\*f2,\*f3;

fpos\_t \*n1,\*n2;

int i1,i2;

f1=fopen ("aaa.bin","rb");

f2=fopen ("bbb.bin","rb");

f3=fopen ("ccc.bin","w+b");

fseek(f1,0,2);

fgetpos (f1,n1);

fsetpos (f1,n1);

fread (&i1,sizeof(int),1,f1);

fseek (f2,0,2);

fgetpos (f2,n2);

fsetpos (f2,n2);

fread (&i2,sizeof(int),1,f2);

do

{if(i1<i2)

{while (\*n1!=0 && i1<i2)

{fwrite (&i1,sizeof(int),1,f3);

\*n1-=sizeof(int);

fsetpos (f2,n1);

fread (&i1,sizeof(int),1,f1);

}

if(n1==0 && i1<i2)

{fwrite (&i1,sizeof(int),1,f3);

i1=MAXINT;

}

}

else

{while (\*n2!=0 && i1>=i2)

{fwrite (&i2,sizeof(int),1,f3);

\*n2-=1;fsetpos(f2,n2);

fread (&i2,sizeof(int),1,f2);

}

if(n2==0 && i1>=i2)

{fwrite (&i1,sizeof(int),1,f3);

i1=MAXINT;

}

}

}while(!feof(f1)||n2!=0);

if(i1!=MAXINT) fwrite (&i1,sizeof(int),1,f3);

if(i2!=MAXINT) fwrite (&i2,sizeof(int),1,f3);

fcloseall();

}

**12-1**

void main(void)

{FILE \*f,\*f1;

fpos\_t pos;

int chisl,chisl1;

f=fopen ("aaa.txt","r+");

f1=fopen ("bbb.bin","r+b");

rewind(all);

while(1)

{fscanf (f,"%d",&chisl);

pos=0;

while(1)

{fsetpos (f1,&pos);

fread (&chisl1,1,sizeof(int),f1);

if (feof(f1)) break;

if (chisl==chisl1)

{while(1)

{fread (&chisl1,1,sizeof(int),f1);

if (feof(f1)) break;

fseek (f1,(long)(-2)\*sizeof(int),1);

fwrite (&chisl1,1,sizeof(int),f1);

fseek (f1,sizeof(int),1);

}

chsize (fileno(f1),filelength(fileno(f1))-sizeof(int));

}

else pos+=sizeof(int);

}

if(feof(f)) break;

}

fcloseall();

}

**12-2**

typedef struct tree

{int x;

struct tree \*l,\*r;

};

void add (tree \*\*p)

{int a;

puts ("Vvedite chislo");

scanf ("%d",&a);

while (\*p)

{if ((\*p)->x==a)

{puts ("takoy element yze est"); return;}

if ((\*p)->x>a) p=&(\*p)->l;

else p=&(\*p)->r;

}

if (!(\*p=(tree\*)malloc(sizeof(\*\*p))))

return;

(\*p)->x=a;

(\*p)->l=(\*p)->r=NULL;

}

**13-1**

void main()

{FILE \*f1,\*f2;

int i1,i2,i,j,kk;

fpos\_t \*n1=0,\*n2=0,\*l1=0;

f1=fopen ("text.txt","w+")

f2=fopen ("binar.bin","w+b")

do

{fsetpos (f2,n2);

fread (&i2,sizeof(int),1,f2);

do

{fsetpos (f1,n1);

fscanf (f1,"%d",&i1);

if (i1==i2)

{do

{fgetpos (f2,l1);

l1+=sizeof(int);

fsetpos (f2,l1);

kk=fread (&j,sizeof(int),1,f2);

l1-=sizeof(int);

fsetpos (f2,l1);

kk=fwrite (&j,sizeof(int),1,f2);

fseek (f2,sizeof(int),1);

}while (!feof(f2));

continue;

}

n1+=1;

}while (!feof(f1));

n2+=sizeof(int);

}while (!feof(f1));

fcloseall();

}

**13-2**

struct man

{char str[10];

};

struct r

{man st;

r \*nx;

};

void main()

{r \*ring=NULL;

sort(&ring);

}

void sort(r \*\*ring)

{r \*j,\*kk,\*g,\*t;

t=g=\*ring;

while(g->nx!=\*ring) g=g->nx;

while(1)

{j=g;kk=t->nx;

while (strcmp(j->nx->st.str,kk->st.str)<0)

j=j->nx;

if(kk!=g)

if(j!=t)

{t->nx=kk->nx;kk->nx=j->nx;

j->nx=kk;

if (kk->nx==\*ring) \*ring=kk;

}

else t=t->nx;

else

{if(kk==j) \*ring=kk;

else

{t->nx=kk->nx;

kk->nx=j->nx;

j->nx=kk;

}

break;

}

}

}

**14-1**

void main (void)

{FILE \*f;

int i,kol,ch1,ch2;

long l;

f=fopen ("aaa.txt","r+b");

l=filelength(fileno(f));

kol=l/sizeof(int);

printf ("введите число");

scanf ("%d",&ch1);

for (i=0;i<(kol+1);i++)

{fread (&ch2,1,sizeof(int),f);

if (ch1<ch2) break;

}

if (i==kol+1)

{fseek (f,0,2);

fwrite (&ch1,1,sizeof(int),f);

}

else

while (i<(kol+1))

{fseek (f,i\*sizeof(int),0);

fread (&ch2,1,sizeof(int),f);

fseek (f,i\*sizeof(int),0);

fwrite (&ch1,1,sizeof(int),f);

ch1=ch2;i++;

}

fprintf (f,"\x0");fclose(f);

}

**14-2**

typedef struct tree

{char mas[15];

tree \*l,\*r;

};

void add (char mas[15],tree \*\*);

void main()

{tree \*h=NULL;

FILE \*f;

char mas[15],m;

f=fopen ("aaa.txt","r");

fscanf (f,"%s",mas);

do

{add (mas,&h);

fscanf (f,"%s",mas);

}while (!feof(f));

}

void add (char mas[15],tree \*\*h)

{int c;

if (!\*h)

{if (!(\*h=(tree \*)calloc(1,sizeof(\*\*h))))

{puts ("Мало памяти"); return;}

strcpy ((\*h)->mas,mas);

(\*h)->l=(\*h)->r=NULL;

}

else

{c=((\*h)->mas)-mas;

if (c<0) add (mas,&((\*h)->l));

else

if (c>=0) add (mas,&((\*h)->r));

}

}

**15-1**

void main()

{FILE \*f;

fpos\_t \*n1,\*n2;

int i1,i2,i3,i;

f=fopen ("aaa.txt","r+");

rewind (f);

\*n1=0;\*n2=7\*sizeof(int);

for (i=0;i<4;i++)

{fsetpos (f,n1);

fread (&i1,sizeof(int),1,f);

fsetpos (f,n2);

fread (&i2,sizeof(int),1,f);

i3=i1;i1=i2;i2=i3;

fsetpos (f,n1);

fwrite (&i1,sizeof(int),1,f);

fsetpos (f,n2);

fwrite (&i2,sizeof(int),1,f);

\*n1+=sizeof(int);

\*n2-=sizeof(int);

}

fclose (f);

}

**15-2**

typedef struct tree

{char a[10];long int b;

tree \*l,\*r;

};

void main ()

{scanf ("%s",name);

scanf ("%ld",&year);

}

void add (tree \*\*p,char name,long double year)

{char name[10];long int year;

if(!\*p)

{if (!(\*p=(tree \*)calloc(1,sizeof(\*\*p))))

{puts ("Мало памяти");return;}

strcpy ((\*p)->a,name);

(\*p)->b=year;

(\*p)->l=(\*p)->r=NULL;

}

else

if (strcmp ((\*p)->a,name)>0)

add (&(\*p)->l,name,year);

else add (&(\*p)->r,name,year);

}

**16-1**

typedef struct del\_2

{unsigned int del:1;

int:15;

};

typedef struct del\_4

{unsigned int del:2;

int:14;

};

typedef union del

{unsigned int num;

del\_2 d2;

del\_4 d4;

};

void main()

{del d;

while(1)

{scanf ("%u",&d.num);

if (!d.num) break;

printf ("%u\n",d.num);

printf ("na 2: %u;\n",d.d2.del);

printf ("na 4: %u;\n",d.d4.del);

}

getch();

}

**16-2**

typedef struct tree

{int i;

tree \*l,\*r;

};

void out (tree \*p,char s[]);

void main (int argc,char \*argv[])

{tree \*p=NULL;

char s[MAXPATH];

strcpy (s,argv[1]);

out(p,s);

}

void out (tree \*p, char s[])

{FILE \*f;

f=fopen (s,"r+");

typedef struct stack

{tree \*p;stack \*pr;

}\*st=NULL,\*t;

if(!p)

{puts("Derevo pustoe");return;}

while (p||st)

{if(!p)

{p=st->p;

t=st;st=t->pr;

free(t);

fprintf (f,"\n%d",p->i);

p=p->r;

}

else

{if (!(t=(struct stack \*)malloc(sizeof(\*st))))

return;

t->p;t->pr=st;st=t;p=p->r;

}

}

}

**17-1**

void main()

{FILE \*f1,\*f2,\*f3;

int i=1,i1,i2,j=0;

long l,n;

f1=fopen ("vozr.bin","rb");

f2=fopen ("ybiv.bin","rb");

f3=fopen ("new.bin","wb");

l=filelength(fileno(f2));

n=l/sizeof(int);

fseek (f2,0,2);

while (!feof(f1))

{fread (&i1,sizeof(int),1,f1);

while(i<=n)

{if (j==0)

{fseek (f2,-sizeof(int)\*i,2);

fread (&i2,sizeof(int),1,f2);

}

if(i1>=i2)

{fwrite (&i2,sizeof(int),1,f3);

if(i==n) i2=MAXINT;

i++;j=0;

}

if(i1<i2 && i<=n)

{fwrite (&i1,sizeof(int),1,f3);

fread (&i1,sizeof(int),1,f1);

j++;

if(i>=n) i1=MAXINT;

}

}

}

if (i1==MAXINT) fwrite (&i1,sizeof(int),1,f3);

if (i2==MAXINT) fwrite (&i2,sizeof(int),1,f3);

fcloseall();

}

**17-2**

typedef struct RING

{char data[10];

RING \*prev,\*next;

};

void add (RING \*\*r)

{if (r==NULL)

{\*r=new RING;

(\*r)->prev=(\*r)->next=\*r;

scanf ("%s",(\*r)->data);

if ((\*r)->data[0]) add(r);

}

else

{RING \*t;

t=\*r;

\*r=new RING;

(\*r)->next=t;

(\*r)->prev=t->prev;

t->prev=(\*r);

(\*r)->prev->next=(\*r);

scanf ("%s",(\*r)->data);

if ((\*r)->data[0]) add(r);

}

}

**18-1**

struct byte

{unsigned int a:1;

unsigned int b:1;

unsigned int c:1;

unsigned int d:1;

unsigned int e:1;

unsigned int f:1;

unsigned int g:1;

unsigned int h:1;

};

union symbol

{char letter;

byte bitflds;

};

void main()

{symbol ch;

ch.letter=getchar();

cout<<"bitovoe predstavlenie: ";

cout<<ch.bitflds.h;

cout<<ch.bitflds.g;

cout<<ch.bitflds.f;

cout<<ch.bitflds.e;

cout<<ch.bitflds.d;

cout<<ch.bitflds.c;

cout<<ch.bitflds.b;

cout<<ch.bitflds.a<<endl;

getch();

}

**19-1**

typedef struct MAN

{char \*F;

};

typedef struct Z

{MAN M;

Z \*NX;

};

void DEL (Z \*\*H)

{Z \*F,\*PR;

if((\*H)==NULL)

{puts("Очередь пустая");

return;

}

if((\*H)->NX==NULL)

{free((\*H));

(\*H)=NULL;

return;

}

PR=(\*H);

F=(\*H)->NX;

while(F->NX!=NULL)

{PR=PR->NX;F=F->NX;

}

PR->NX=NULL;

free(F);return;

}

**19-2**

struct LIB

{char author[20];

char name[20];

int year;

}\*lbr;

void add(int\*);

void sort\_name(int);

void sort\_year(int);

void main()

{int n=0;

while(1)

{cout<<"1 - add data;"<<endl;

cout<<"2 - sort by name;"<<endl;

cout<<"3 - sort by year;"<<endl;

cout<<"0 - exit."<<endl;

switch (getch())

{case '1': add(&n); break;

case '2': sort\_name(n); break;

case '3': sort\_year(n); break;

case '0': return;

}

}

}

void add(int \*n)

{do

{(\*n)++;

if(!(lbr=(LIB\*)realloc(lbr,sizeof(LIB)\*(\*n)))) return;

cout<<"author name:"<<endl;

cin>>(lbr+\*n)->author;

cout<<"name of book:"<<endl;

cin>>(lbr+\*n)->name;

cout<<"year:"<<endl;

cin>>(lbr+\*n)->year;

cout<<"Продолжить?(y/n)"<<endl;

}while(getch()=='y');

}

void sort\_name(int n)

{int i,j;

char buf[20];

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

for (j=0;j<n-i-1;j++)

if (strcmp ((lbr+j)->name,(lbr+j+1)->name)>0)

{strcpy (buf,(lbr+j)->name);

strcpy ((lbr+j)->name,(lbr+j+1)->name);

strcpy ((lbr+j+1)->name,buf);

}

}

void sort\_year(int n)

{int i,j,buf;

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

for(j=0;j<n-i-1;j++)

if ((lbr+j)->year>(lbr+j+1)->year)

{buf=(lbr+j)->year;

(lbr+j)->year=(lbr+j+1)->year;

(lbr+j+1)->year=buf;

}

}

**20-1**

void main()

{FILE \*f;

char a,str[1],s[79],ga[1];

int i=0,k=0,len=0,len1=0,z;

f=fopen ("aaa.txt","r+b");

fgets (s,filelength(fileno(f)),f);

fputs (s,stdout);

while(1)

if (s[i++]!='\0') len++;

else break;

for (i=0;i<len;i++)

{fseek (f,i,0);

fgets (ga,2,f);

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

{fseek (f,k,0);

fgets (str,2,f);

if (strcmp(ga,str)==0)

{len--;

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

{fseek (f,z+1,0);

fscanf (f,"%c",&a);

fseek (f,z+1,0);

fprintf (f,"%c",' ');

fseek (f,z,0);

fwrite (&a,sizeof(char),1,f);

}

}

}

rewind(f);

fgets (s,len,f);fputs (s,stdout);

getch();

}

fcloseall();

}

**20-2**

int \*f(int \*len)

{int k,i,f;

int \*mas;

\*len=2;

do

{scanf ("%d",&k);

if(k)

{if(mas)

{i=1;

while (i<\*len)

{if (mas[i]>k) {i=2\*i+1;f=1;}

if (mas[i]<k) {i=2\*i;f=2;}

if (mas[i]==k) f=3;

}

if (f==1||f==2)

{\*len=i+1;

mas=(int\*)realloc(mas,\*len\*sizeof(int));

mas[i]=k;

}

}

else

{mas=(int\*)malloc(\*len\*sizeof(int));

mas[1]=2;

}

}

}while(k);

return mas;

}

**21-1**

void main()

{FILE \*f1,\*f2,\*f3;

int i=1,i1,i2,j=0,j1=0,k=1;

long l,l1,n,n1;

f1=fopen ("aaa.bin","rb");

f2=fopen ("bbb.bin","rb");

f3=fopen ("ccc.bin","wb");

l=filelength(fileno(f2));

n=l/sizeof(int);

l1=filelength(fileno(f1));

n1=l1/sizeof(int);

fseek (f1,0,2);fseek (f2,0,2);

i2=0;

while(k<n1)

{if(j1==0)

{fseek (f1,-2\*k,2);

fread (&i1,sizeof(int),1,f1);

}

while(i<=n)

{if(j==0)

{fseek (f2,-2\*i,2);

fread (&i2,sizeof(int),1,f2);

}

if(i1<=i2)

{fwrite (&i2,sizeof(int),1,f3);

if(i==n) i2=MAXINT;

i++;j=0;j1=0;

}

if(i1>i2 && i<=n)

{fwrite (&i1,sizeof(int),1,f3);

k++;

fseek (f1,-2\*k,2);

fread (&i1,sizeof(int),1,f1);

j++;j1++;

if(k>n1) i1=MAXINT;

}

}

}

if (i1==MAXINT) fwrite (&i1,sizeof(int),1,f3);

if (i2==MAXINT) fwrite (&i2,sizeof(int),1,f3);

fcloseall();

}

**21-2**

struct name

{char name[10];

long grup;

};

struct bal

{int a;

int b;

int c;

int d;

};

struct info

{name \*n;

bal \*o;

};

void find (int n,info \*st)

{int sum=0;

char name[10];

long grup=0;

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

{if ((st+j)->o->a+(st+j)->o->b+(st+j)->o->c+(st+j)->o->d>sum)

{sum=(st+j)->o->a+(st+j)->o->b+(st+j)->o->c+(st+j)->o->d;

free (name);

strcpy (name,(st+j)->n->name);

grup=(st+j)->n->grup;

}

}

}

**22-1**

void del()

{FILE \*f;

int k=1,j,i;

long pos;

f=fopen ("aaa,bin","rb+");

scanf ("%d",&j);

do

{fgetpos (f,&pos);

fread (&i,sizeof(int),1,f);

if (feof(f)) break;

if (i==j)

{k=0;

do

{fread (&i,sizeof(int),1,f);

if (feof(f))

{chsize (fileno(f),pos);break;}

fseek (f,-2\*sizeof(int),1);

fwrite (&i,sizeof(int),1,f);

fgetpos (f,&pos);

fseek (f,sizeof(int),1);

}while(1);

}

}while(k);

fclose(f);

}

**22-2**

struct QUEUE

{int n;

QUEUE \*nx,\*pr;

};

void sort (QUEUE\*);

void main()

{QUEUE \*t=NULL,\*h=NULL;

sort(t);

}

void sort(QUEUE \*t)

{QUEUE \*s;

int buf;

while(t)

{s=t->nx;

while(s)

{if(t->n>s->n)

{buf=t->n;

t->n=s->n;

s->n=buf;

}

s=s->nx;

}

t=t->nx;

}

}

**23-1**

void main ()

{FILE \*f;

int i,kol;

char ch1,ch2;

long l;

f=fopen ("aaa.txt","r+");

l=filelength(fileno(f));

kol=l/sizeof(char);

printf ("Введите символ");

scanf ("%c",&ch1);

for (i=0;i<(kol+1);i++)

{fscanf (f,"%c",&ch2);

if (ch1<ch2) break;

}

if (i==kol+1)

{fseek (f,0,2);

fprintf (f,"%c",ch1);

}

else

while (i<(kol+1))

{fseek (f,i\*sizeof(char),0);

fscanf (f,"%c",&ch2);

fseek (f,i\*sizeof(char),0);

fprintf (f,"%c",ch1);

ch1=ch2;i++;

}

fprintf (f,"\x0");

}

**23-2**

typedef struct r

{int i;

r \*nx;

};

void sort(r\*\*);

void main()

{r \*ring,\*r1;int k;

\*ring=NULL;

sort (&ring);

return;

}

void sort(r \*\*ring)

{r \*r1,\*r2,\*r3,\*r4,\*r5;

int i;

r1=(\*ring);r2=r1->nx;

while (r2->nx!=r1) r2=r2->nx;

r5=r2;r2=r1->nx;

while (r2!=r1)

{r3=r1;

while (r3->nx!=r2) r3=r3->nx;

i=r2->i;

while (i<r3->i && r3!=r5)

{r3->nx->i=r3->i;

r4=r3;r3=r5;

while (r3->nx!=r4) r3=r3->nx;

}

r3->nx->i=i;r2=r2->nx;

}

\*ring=r5;

}