

```

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,il,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 && il<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<<"Стек
пуст"<<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 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 *sl;
 int i;sl=s;
 do
 {if(strcmp(sl->inf,sl->r-
>inf)>0)
 {if(s==sl)
 s=sl->r;sl->l->r=sl->r;
 sl->r=sl->r->r;sl->l->r-
>r=sl;
 sl->l->r->l=sl->l;
 sl->r->l=sl->l->r;
 sl=sl->l;
 if(sl!=s && strcmp(sl->l-
>inf,sl->inf)>0)
 sl=sl->l;
 }
 else sl=sl->r;
 }while(sl->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);
 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,*tl;
 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;
 tl=t->nx;
 t->nx=t->nx->nx;
 free(tl);
}

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 ("Введите 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:l;
 unsigned int b:l;
 unsigned int c:l;
 unsigned int d:l;
 unsigned int e:l;
 unsigned int f:l;
 unsigned int g:l;
 unsigned int h:l;
};
union symbol
{char letter;
 byte bitflds;
};
void main()
{symbol ch;
 ch.letter=getchar();
 cout<<"битовое представление:
";
 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
f(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
f(int));
 mas[i]=k;
 }
 }
 else
 {mas=(int*)malloc(*len*sizeof(in
t));
 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;
}

```