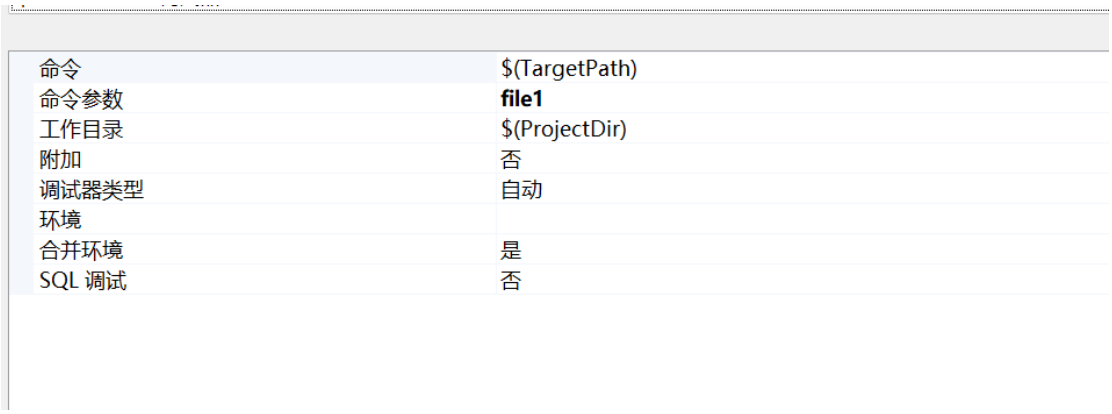
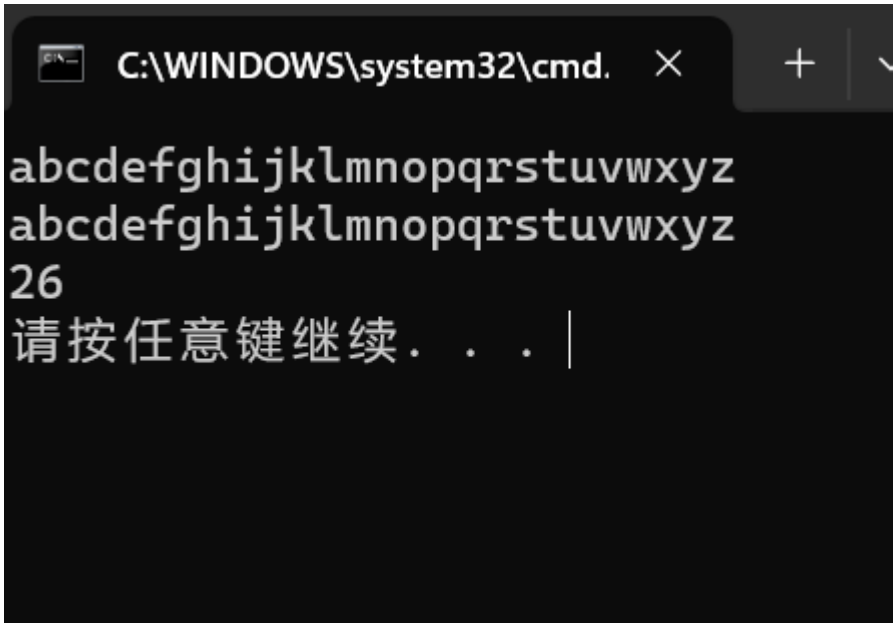
练习 14

3.

源代码:

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
void main(int argc,char *argv[]){
    FILE *fp,*fp1;
    char str[80],s1[80];
    fp1=fopen("file1","w");
    if(fp1==NULL){
        printf("Can't open the file!\n");
        exit(0);
    }
    gets(s1);
    fputs(s1,fp1);
    fclose(fp1);//建立file1文件
    fp=fopen(argv[1],"r");
    if(fp==NULL){
        printf("Can't open the file!\n");
        exit(0);
    }
    fgets(str,80,fp);
    printf("%s\n%d\n",str,strlen(str));
    fclose(fp);
}
```





6.

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

struct student{
    char num[7];
    char name[8];
    char gender[3];
    char age[5];
    char grade[9];
};
void main(){
    struct student st[10]=
    {{"101","Zhang","M","19","95.6"},
    {"102","Wang","F","18","92.4"},
    {"103","Zhao","M","19","85.7"},
    {"104","Li","M","20","96.3"},
    {"105","Gao","M","19","90.2"},
    {"106","Lin","M","18","91.5"},
    {"107","Ma","F","17","98.7"},
    {"108","Zhen","M","21","90.1"},
    {"109","Xu","M","19","89.5"},
    {"110","Mao","F","18","94.5"}};
    struct student temp;
    FILE *fp;
    fp=fopen("stu.dat","w+b");
    if(fp==NULL){
```

```
            printf("Can't open the file!\n");
            exit(0);
        }
        fwrite(st,sizeof(struct student),10,fp);
        fclose(fp);
        fp=fopen("stu.dat","r+b");
        if(fp==NULL){
            printf("Can't open the file!\n");
            exit(0);
        }
        printf("    num    name    gender  age    grade\n");
        while(!feof(fp)){
            if(fread(&temp,sizeof(struct student),1,fp)==NULL) break;
printf("%7s%8s      %-3s%5s%9s\n",temp.num,temp.name,temp.gender,temp.age,temp.grade);
        }
        fclose(fp);
}
```

7.

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

struct student{
```

```
    char num[8];
    char name[8];
    char gender[5];
    char age[5];
    char grade[10];
};
void main(){
    struct student st[10]=
    {{"101","Zhang","M","19"," 95.6"},
    {"102","Wang","F","18"," 92.4"},
    {"103","Zhao","M","19"," 85.7"},
    {"104","Li","M","20"," 96.3"},
    {"105","Gao","M","19"," 90.2"},
    {"106","Lin","M","18"," 91.5"},
    {"107","Ma","F","17"," 98.7"},
    {"108","Zhen","M","21"," 90.1"},
    {"109","Xu","M","19"," 89.5"},
    {"110","Mao","F","18"," 94.5"}};
    struct student s[10];
    FILE *fp,*fp1;
    int m[1],t,i;
    void mudisk(FILE *fp,long n);
    int nibisearch(FILE *fp,long n, char *a,char *b,int*m);
    fp=fopen("st.dat","w+");
    if(fp==NULL){
        printf("Can't open the file!\n");
        exit(0);}
    fwrite(st,sizeof(struct student),10,fp);
    fclose(fp);
    fp=fopen("st.dat","r");
    if(fp==NULL){
        printf("Can't open the file!\n");
        exit(0);}
    mudisk(fp,10);
        fclose(fp);
        printf("\n");
    fp=fopen("sort.dat","a+");
    if(fp==NULL){
        printf("Can't open the file!\n");
        exit(0);}
    t=nibisearch(fp,10," 95.0","100.0",m);
    fclose(fp);
    fp=fopen("sort.dat","r");
    if(fp==NULL){
```

```
        printf("Can't open the file!\n");
        exit(0);}
        fread(s,sizeof(struct student),10,fp);
        fclose(fp);
    printf("    num    name    gender  age    grade\n");
        for(i=(*m);i<=t;i++)
        printf("%7s%8s      %-
3s%5s%9s\n",s[i].num,s[i].name,s[i].gender,s[i].age,s[i].grade);
}
void mudisk(FILE *fp,long n){
    struct student *s;
    struct student tp;
    int i,j,k,m;
    FILE *fp1;
    s=(struct student *)calloc(n,sizeof(struct student));
    fread(s,sizeof(struct student),n,fp);
    k=0;m=n-1;
    while(k<m){
        j=m-1;m=0;
        for(i=k;i<=j;i++){
            if(strcmp(s[i].grade,s[i+1].grade)>0){
                tp=s[i];s[i]=s[i+1];s[i+1]=tp;
                m=i;}
        }
        j=k+1;k=0;
        for(i=m;i>=j;i--){
                if(strcmp(s[i-1].grade,s[i].grade)>0){
                tp=s[i];s[i]=s[i-1];s[i-1]=tp;
                k=i;}
        }
    }
        printf("    num    name    gender  age    grade\n");
        for(i=0;i<n;i++)
        printf("%7s%8s      %-
3s%5s%9s\n",s[i].num,s[i].name,s[i].gender,s[i].age,s[i].grade);
        fclose(fp);
        fp1=fopen("sort.dat","w");
     if(fp1==NULL){
        printf("Can't open the file!\n");
        exit(0);}
        fwrite(s,sizeof(struct student),n,fp1);
        fclose(fp1);
        free(s);
}
```

```
int nibisearch(FILE *fp,long n, char *a,char *b,int*m){
    struct student *s;
    int i=0,j=n-1,k,t;
    s=(struct student*)malloc(sizeof(struct student)*n);
    fread(s,sizeof(struct student),n,fp);
    while(i<=j){
        k=(i+j)/2;
        if(strcmp(s[k].grade,a)==0) break;
        else if(strcmp(s[k].grade,a)>0) j=k-1;
        else i=k+1;
    }
    if(strcmp(s[k].grade,a)<0) k++;
    i=0;j=n-1;
    while(i<=j){
        t=(i+j)/2;
        if(strcmp(s[t].grade,b)==0) break;
        else if(strcmp(s[t].grade,b)>0) j=t-1;
        else i=t+1;
    }
    if(strcmp(s[t].grade,b)>0)  t--;
    *m=k;
    free(s);
    return t;
}
```


C:\WINDOWS\system32\cmd.
num name gender age grade
103 Zhao M 19 85.7
109 Xu M 19 89.5
108 Zhen M 21 90.1
105 Gao M 19 90.2
106 Lin M 18 91.5
102 Wang F 18 92.4
110 Mao F 18 94.5
101 Zhang M 19 95.6
104 Li M 20 96.3
107 Ma F 17 98.7
num name gender age grade
101 Zhang M 19 95.6
104 Li M 20 96.3
107 Ma F 17 98.7
请按任意键继续. . .