

9.5 Random Access File

* access file randomly

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- .

* (functions)

- fseek(FILE *stream, long offset, int where); →
- rewind (FILE *stream); →
- ftell(FILE *stream); →
- fwrite (const void *ptr, size_t size, size_t n, FILE *stream); →
- fread (void *ptr, size_t size, size_t n, FILE *stream); →

* fseek

int where

SEEK_SET : starting position

SEEK_CUR : current position

SEEK_END : ending position

ex)

fseek(stream, 0L, SEEK_SET); →

fseek(stream, 10L, SEEK_SET); → 10 byte

fseek(stream, -10L, SEEK_CUR); → 10byte

Example 1) Random Access file

```
#include <stdio.h>
void main()
{
    int i ;
    float a[10];
    FILE *fp ;
    for (i=0;i<10;i++) a[i] = (float) i ;
    fp = fopen("test.dat","w+b") ;
    for(i=0;i<10;i++)
        fwrite(&a[i], sizeof(float), 1,fp) ;

        fwrite(a,sizeof(float),10,fp) ;
    fclose(fp) ;
}
```

Example 2) Random Access file (7)

```
#include <stdio.h>
void main()
{
    int i ;
    long pos ;
    float b ;
    FILE *fp ;
    fp = fopen("test.dat","rb") ;
    pos = sizeof(float) * 7L ;
    fseek(fp, pos, SEEK_SET) ;
    fread(&b, sizeof(float),1,fp) ;
    fclose(fp) ;
}
```

Example 3)

Random Access file

```
#include <stdio.h>
typedef struct
{
    char title[201] ;
    char author[101] ;
    float price ;
} BOOK ;

void main()
{
    FILE *fp1, *fp2 ;
    BOOK bs ;
    fp1 = fopen("books.txt","rt") ;
    fp2 = fopen("books.bin","wb") ;
    for (i=0;i<100;i+ +)
    {
        fgets(bs.title,80,fp1) ;
        fgets(bs.author,80,fp1) ;
        fscanf(fp1,"%f", &bs.price) ;

        fwrite(&bs, sizeof(BOOK),1,fp2) ;
    }
    fclose(fp1) ;
    fclose(fp2) ;
}
```

Example 3)

Random Access file

```
#include <stdio.h>
typedef struct
{
    char title[201] ;
    char author[101] ;
    float price ;
} BOOK ;

void main()
{
    FILE *fp ;
    BOOK bs ;
    long pos ;
    fp = fopen("books.bin","rb") ;

    pos = sizeof(BOOK) * 77L ;
    fseek(fp, pos, SEEK_SET) ;
    fread(&bs, sizeof(BOOK),1,fp) ;

    fclose(fp) ;

}
```