C Programming Day21.B

2017.11.28

File Processing

```c
#include <stdio.h>

int main(void) {
  int i;

  FILE *fp;

  fp = fopen("test.out", "w");

  for (i=0; i<10; ++i)
    printf("i= %d\n", i);

  for (i=0; i<10; ++i)
    fprintf(fp, "i= %d\n", i);


  fclose(fp);
}
```

```
guest-bv4cq9@Usys02 ~ $ gcc -Wall t.c
guest-bv4cq9@Usys02 ~ $ ./a.out
i= 0
i= 1
i= 2
i= 3
i= 4
i= 5
i= 6
i= 7
i= 8
i= 9
guest-bv4cq9@Usys02 ~ $ ls -l test.out
-rw-rw-r-- 1 guest-bv4cq9 guest-bv4cq9 50 nov 29 01:13 test.out
```

50 bytes

```
guest-bv4cq9@Usys02 ~ $ cat test.out
i= 0
i= 1
i= 2
i= 3
i= 4
i= 5
i= 6
i= 7
i= 8
i= 9
```

5 bytes × 10 lines = 50 bytes

```c
#include <stdio.h>

int main(void) {
  int i;
  int A[10];

  FILE *fp;

  fp = fopen("test.out", "r");


  for (i=0; i<10; ++i)
    fscanf(fp, "i= %d\n", &A[i]);
    // fscanf(fp, "i= %d", &A[i]);   // Not Working


  for (i=0; i<10; ++i)
    printf("A[%d]= %d\n", i, A[i]);

  fclose(fp);
}
```

necessary (handwritten annotation pointing to `\n` in the fscanf format string)

```
#include <stdio.h>

int main(void) {
    int i = 0x41424344;   // 4-byte, MSB=01, LSB=04
                A  B  C  D

    FILE *fp;

    printf("i=%d \n", i);
    printf("i=%x \n", i);

    fp = fopen("test.dat", "w");

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

    fclose(fp);
}
```

```
guest-bv4cq9@Usys02 ~ $ ./a.out
i=1094861636
i=41424344
guest-bv4cq9@Usys02 ~ $ ls -l test.dat
-rw-rw-r-- 1 guest-bv4cq9 guest-bv4cq9 4 nov 29 01:19 test.dat
guest-bv4cq9@Usys02 ~ $
guest-bv4cq9@Usys02 ~ $ cat test.dat
DCBAguest-bv4cq9@Usys02 ~ $
guest-bv4cq9@Usys02 ~ $
```

4 bytes only (annotation pointing to the `4` in the `ls -l` output)

LS Byte first (annotation pointing to `DCBA`)

$$
\begin{array}{cccc}
A & B & C & D \\
\end{array}
$$

$$
i = 0X41 \quad 42 \quad 43 \quad 44
$$

MSB   LSB