Ch8: File Handling & Misc

305171 Computer Programming
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File Systems

- Text Files

  Text files are the normal .txt files

- Binary Files
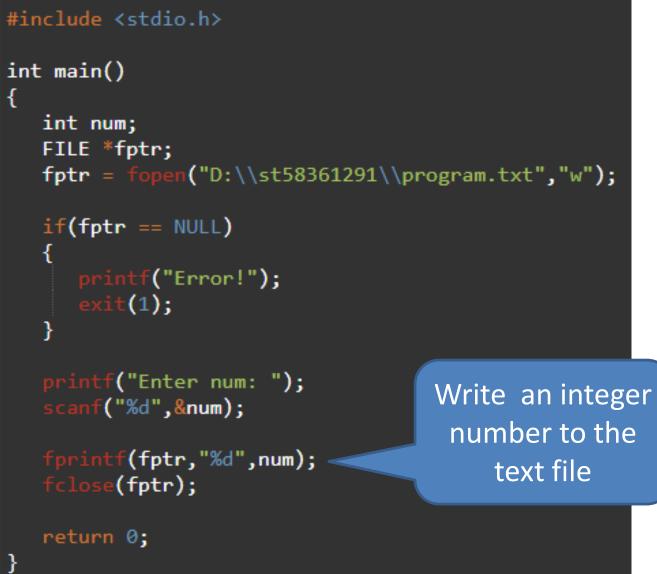
  Binary files are the .bin files

Create a new file

```
FILE *fptr;
fptr = fopen("fileopen","mode")
fclose(fptr);
```

If the file doesn't exist, by using fopen, we have created a new file.

Opening Modes in Standard I/O	Meaning
r	Open for reading
rb	Open for reading in binary mode
w	Open for writing
wb	Open for writing in binary mode
a	Open for append
ab	Open for append in binary mode
r+	Open for both reading and writing

Write a text file

```c
#include <stdio.h>

int main()
{
    int num;
    FILE *fptr;
    fptr = fopen("D:\\st58361291\\program.txt","w");

    if(fptr == NULL)
    {
        printf("Error!");
        exit(1);
    }

    printf("Enter num: ");
    scanf("%d",&num);

    fprintf(fptr,"%d",num);
    fclose(fptr);

    return 0;
}
```

Write an integer number to the text file

Write a text file

```c
#include <stdio.h>

int main()
{
    char sentence[1000];
    FILE *fptr;

    fptr = fopen("D:\\st58361234\\program.txt", "w");
    if(fptr == NULL)
    {
        printf("Error!");
        exit(1);
    }

    printf("Enter a sentence:\n");
    gets(sentence);

    fprintf(fptr,"%s", sentence);
    fclose(fptr);

    return 0;
}
```

Function gets is for receiving many characters from keyboard.

Read a text file

```c
#include <stdio.h>

int main()
{
    int num;
    FILE *fptr;

    if ((fptr = fopen("D:\\st58361123\\program.txt","r")) == NULL){
        printf("Error! opening file");

        exit(1);
    }

    fscanf(fptr,"%d", &num);

    printf("Value of n=%d", num);
    fclose(fptr);

    return 0;
}
```

Read an integer number to store in a variable num

Read a text file

```c
#include <stdio.h>

int main()
{
    char c[1000];
    FILE *fptr;

    if ((fptr = fopen("D:\\st58361234\\program.txt", "r")) == NULL)
    {
        printf("Error! opening file");
        exit(1);
    }

    fscanf(fptr,"%[^\n]", c);

    printf("Data from the file:\n%s", c);
    fclose(fptr);

    return 0;
}
```

Read in a pattern (looking for \n)

If vs Switch Case

```c
void charType(char x){
    if(x=='A'){
        printf("%c is an upper case letter \n",x);
    }else if(x=='a'){
        printf("%c is a lower case letter \n",x);
    }else if(x=='1'){
        printf("%c is a number \n",x);
    }else {
        printf("%c is special letter \n",x);
    }
}

int main () {

    char x;
    printf("Enter a character: ");
    scanf("%c",&x);

    charType(x);
}
```

```c
void charType(char x){
    switch(x)
    {
    case 'A':
        printf("%c is an upper case letter \n",x);
        break;
    case 'a':
        printf("%c is a lower case letter \n",x);
        break;
    case '1':
        printf("%c is a number \n",x);
        break;
    default:
        printf("%c is special letter \n",x);
    }
}
```

Switch Case

```c
void charType(char x){
    switch(x)
    {
    case 'A':
        printf("%c is an upper case letter \n",x);
        break;
    case 'a':
        printf("%c is a lower case letter \n",x);
        break;
    case '1':
        printf("%c is a number \n",x);
        break;
    default:
        printf("%c is special letter \n",x);
    }
}
```

Switch case (break)

```c
void charType(char x){
    switch(x)
    {
    case 'A':
        printf("%c is an upper case letter \n",x);
        break;
    case 'a':
        printf("%c is a lower case letter \n",x);
    case '1':
        printf("%c is a number \n",x);
        break;
    default:
        printf("%c is special letter \n",x);
    }
}
```

No break. Th
the output w
be both cas
'a' and '1'

Break

```c
void count(int x){
    int i;
    for(i=1;i<=x;i++){

        if(i==5)
        break;

        printf("%d \n",i);
    }

    printf("outside loop\n");
}

int main () {

    int x;
    printf("Enter a number: ");
    scanf("%d",&x);

    count(x);
}
```

Continue

```c
void count(int x){
    int i,j;
    for(i=1;i<=x;i++){
        if(i==2)
        continue;

        printf("%d \n",i);
    }
    printf("end loop\n");

}

int main () {

    int x;
    printf("Enter a number: ");
    scanf("%d",&x);

    count(x);
}
```