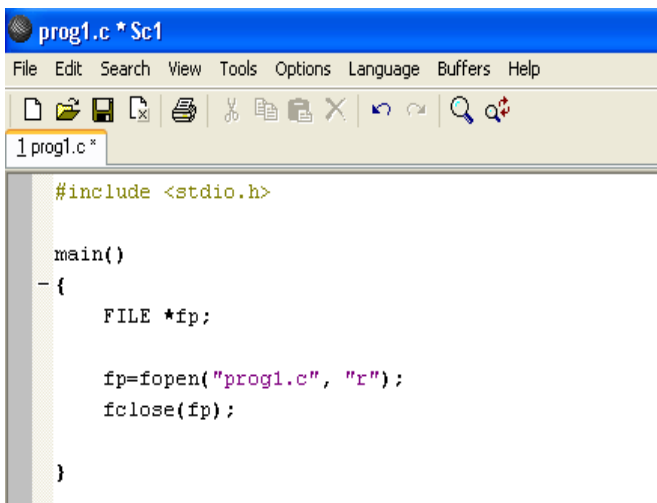


Programming with persistent data

Lab 1

For today's lab we will just introduce the idea of opening & closing files on a hard disk.



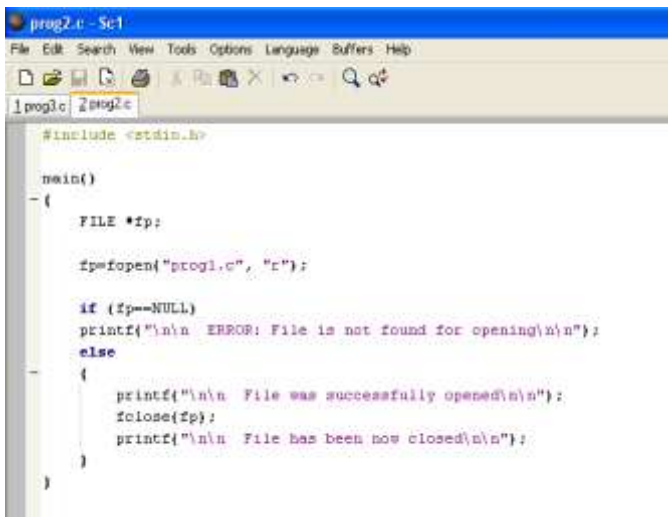
```
#include <stdio.h>

main()
- {
    FILE *fp;

    fp=fopen("prog1.c", "r");
    fclose(fp);
}
```

You should open the bcc5.5 SCI editor and manually key in the following short program, "prog1.c". (NB: *comment each line of the code saying what it does for the program*).

Compile it and then execute it, ideally from the DOS prompt.



```
#include <stdio.h>

main()
- {
    FILE *fp;

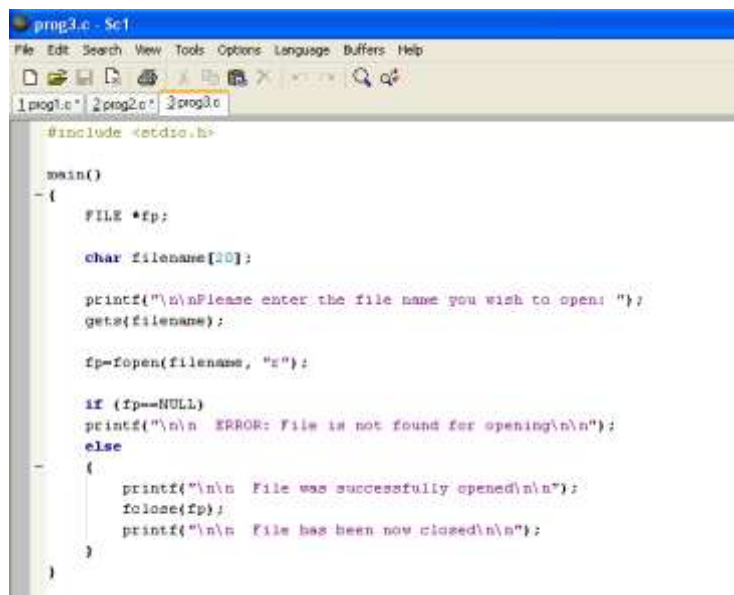
    fp=fopen("prog1.c", "r");

    if (fp==NULL)
        printf("\n\n ERROR: File is not found for opening\n\n");
    else
    {
        printf("\n\n File was successfully opened\n\n");
        fclose(fp);
        printf("\n\n File has been now closed\n\n");
    }
}
```

Next: you are going to re-save the above program as "prog2.c". Modify this new version to include error handling on file opening/closing. (NB: *again comment each additional line of the code*).

Again compile & executed this version and examine the results.

Now, change the `fp=fopen("prog1.c", "r");` statement to `fp=fopen("apple.c", "r");` then recompile and execute. Can you explain the result?



```
prog3.c - Sc1
File Edit Search View Tools Options Language Buffers Help
1 prog1.c 2 prog2.c 3 prog3.c

#include <stdio.h>

main()
- {
    FILE *fp;

    char filename[30];

    printf("\n\nPlease enter the file name you wish to open: ");
    gets(filename);

    fp=fopen(filename, "r");

    if (fp==NULL)
        printf("\n\n ERROR: File is not found for opening\n\n");
    else
    - {
        printf("\n\n File was successfully opened\n\n");
        fclose(fp);
        printf("\n\n File has been now closed\n\n");
    }
}
```

Finally, re-save the last version as “prog3.c” and modify it to the following, ensuring again that you comment the changes.

Likewise, run it from the DOS prompt and examine its operation against different file names