

An-Najah National University
Department of Computer Engineering
Compiler Construction-10636416
Spring 2021

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Needed by your compiler Assignments
Programming Assignment #0

Note the 0 means that this is a trivial programming assignment but it will be needed in the next Programming Assignments

/ Implement the file descriptor defined in the header file described below (fd.h) , you may change, modify, or rewrite this code, but your code must be better than mine. The file descriptor opens a file, reads a line from the file, keeps track of the current character and line number, and reports errors related to the current line and current character.*

You need to allocate memory for the filename and line buffer. If the default line buffer size is not sufficient keep doubling it until it is sufficient.

**/*

/ fd.h*

Interface definition for the file descriptor module

**/*

#define SET 1

#define UNSET 0

#define BUFFER SIZE 256

class FileDescriptor

{

/ You must fill in these fields */*

private:

FILE *fp;

int line_number; */* line number in the file */*

int char_number; */* character number in the line */*

int flag; */* to prevents two ungets in a row */*

int buf_size; */* stores the buffer size */*

char *buffer; */* buffer to store a line */*

char *file; */* file name, allocate memory for this */*

int flag2;

// add other fields or functions if you want

public:

```
/* Externally-visible functions: */
char *GetFileName();
bool IsOpen() ;           // returns true if a file is open without errors,
                           //otherwise returns false
char *GetCurrLine();      // returns a pointer to buffer, null if EOF
int GetLineNum();
int GetCharNum();
FileDescriptor(char *FileName); // opens the stdin FileName is Null
~FileDescriptor();
FileDescriptor();          //opens the stdin
void Close ( );            // closes the file descriptor
char GetChar ();           // Gets the current character in the file
//bool open_file_descriptor (char *filename);
void ReportError (char *msg); // reports the error specifying the current line and
                              //character
void UngetChar (char c); // puts back the current character, modifies char number

};
```