Practice Exercises on files

Canvas: File Exercise #2

A] Preliminaries [Recall File operations: fopen(), fclose(), and fwrite()]

fopen() and fclose()

```
FILE* fopen(const char *filename, const char *mode);

FILE *fp;
fp = fopen("test.dat", "wb");
if (fp != NULL) {
 /* Do fwrite operations HERE */
   fclose(fp);
 }
```

fp → Points to the beginning of a new file

Note: If the file exists, it is overwritten
If the file does not exists, it is created

test.dat

Sample Program that writes the float values to the file.

```
size_t fwrite(const void *buf, size_t size, size_t count, FILE *fp;
```

```
#include <stdio.h>
#define max 3

void main(void)
{
 FILE *fp;
 float x;
 int ctr;
 if ( !(fp=fopen("test", "wb"))) {
   printf("\ncannot open file");
 } else {
   // file is successful opened
   // continue: CODE - A
```

```
  // CODE - A
  for (ctr = 0; ctr < max; ctr++) {
    scanf("%f", &x);
    fwrite(&x, sizeof(float), 1, fp);
  }
  fclose(fp);
  } // else
}

/* This program writes max float values to
   the file test max TIMES. Notice that
   sizeof is used both to determine the
   number of bytes in a float variable and
   to ensure portability */
```

B] Problem Specification: Create the program (named: writefile.c) that will write at least 5 student records to the file whose name will be inputted by the user. The student record will be stored in the file 1 record at a time or all records are written once ONLY (i.e executing 1 fwrite() statement ONLY) using an array to hold the records.

The program has at least 3 functions with specification below.

Function	Specification
displayHeader()	Same as File Exercise #1. Complete code is given.
displayStudent()	Same as File Exercise #1
writeFile()	This function writes at least 5 student records to the file whose name will be inputted by the user. The student record will be stored in the file 1 record at a time or all records are written once ONLY (i.e executing 1 fwrite() statement ONLY) . Note: 1) GIGO (Garbage In Garbage Out). Before writing to the file, make sure the data are correct by displaying data on the screen. 2) Since the focus is on writing to the file, student record variables can be declared and initialized instead of inputting from the keyboard. Checking: Run readfile.c (created in Exercise #1) to check if the newly created data file is not garbage.