CSE 115 Lab on Files – RRa

1. Opening & closing a text file:

```
#include<stdio.h>
void main()
{
    FILE *fp;
    fp=fopen("test.txt","r");
    if(fp != NULL)
    {
     printf("File opened");
     fclose(fp);
    }
    else printf("Error");
}
```

2. Writing user inputs to a text file:

```
#include<stdio.h>
#include<string.h>
void main()
{
    FILE *fp;
    char buffer[30];
    fp=fopen("test.txt","w");
   if(fp == NULL)
   {
     printf("Error"); return;
   }
   printf("Enter text to write to
file (hit only enter to stop):\n");
    while(1){
      gets(buffer);
      if(strcmp(buffer,"")==0) break;
      fprintf(fp,buffer);
    }
    fclose(fp);
}
```

3. Reading from a text file:

```
#include<stdio.h>
#include<string.h>
void main()
{
    FILE *fp;
    fp=fopen("test.txt","r");
    char c;
    while((c=getc(fp))!=EOF)
     putchar(c);

    fclose(fp);
}
```

4. Appending to a text file:

```
#include<stdio.h>
#include<string.h>

int main()
{
   FILE *fp;
   fp=fopen("test.txt","a");
   fprintf(fp,"Added stuffs");
   fclose(fp);
   return 0;
}
```

5. Writing multiple entries to files:

```
#include<stdio.h>
#include<string.h>
void main()
{
     FILE *fpointer;
     fpointer = fopen("input.txt", "w");
     fprintf(fpointer, "Bob\n30\n20000\n");
     fprintf(fpointer, "Amanda\n20\n10000\n");
     fclose(fpointer);
}
```

6. Reading multiple entries from files:

```
#include<stdio.h>
#include<string.h>
void main()
{
```

```
    FILE *fpointer;
    char name[100];
    int age;
    float salary;

    fpointer = fopen("input.txt", "r");
    while(fscanf (fpointer, "%s%d%f", &name, &age, &salary)== 3)
    {
        if(name[strlen(name) - 1] == '\n')
           name[strlen(name) - 1] = '\0';
        printf("%s\n%d\n%f\n", name, age, salary);
        if(feof(fpointer) == 1) break;
    }
    fclose(fpointer);
}
```

7. Writing structures to files:

```
#include <stdio.h>
#include <stdlib.h>
struct customer
{
    char  fname[20],lname[20];
    int   acct_num;
    float acct_balance;
} cust[100];

int num = 0; //total number of customers

void main ()
{
    FILE *file;

    file = fopen ("accounts.dat","w");
    if (file == NULL) {
        fprintf(stderr, "\nError opening accounts.dat\n\n"); exit (1);
    }

    int i;
    for(i=0; ; i++){
        printf ("Firstname (just hit enter to stop):");
        gets(cust[i].fname);
        if(strcmp(cust[i].fname,"")==0) break;
        fflush(stdin);
        printf ("Lastname:");
        gets(cust[i].lname);
        fflush(stdin);
        printf ("Acct No:");
        scanf("%d", &cust[i]. acct_num);
        fflush(stdin);
        printf ("Acct Balance:");
        scanf("%f", &cust[i].acct_balance);
        fflush(stdin);
    }
    num = i;
    fwrite(cust, sizeof(struct customer), i, file);
    fclose(file);
}
```

8. Reading structures from files:

```
#include <stdio.h>
#include <stdlib.h>

struct customer
{
    char  fname[20],lname[20];
    int   acct_num;
    float acct_balance;
}cust[100];

int num = 0; //total number of customers

void main ()
{
    FILE *file;

    file = fopen ("accounts.dat","r");
    if (file == NULL)
    {
        fprintf(stderr, "\nError opening accounts.dat\n\n");
        exit (1);
    }

    int i;
    num = fread (cust, sizeof(struct customer), 100, file);
    for(i=0; i<num; i++)
    {
        printf ("Name: %s %s, Acct# %d, Balance=%0.2f\n",
                cust[i].fname, cust[i].lname, cust[i].acct_num,
                cust[i].acct_balance);
    }
    fclose(file);
}
```

Exercise:

1. Incorporate reading & writing to/from file in your project so that each time user starts the program, it doesn't read from user, instead it reads from a certain file and then show those to the user. Also, just before the program finishes, the program should store your array of structures in a file.
   Hint: combine the ideas in example 7 and 8 above to read & write to/from a file.

2. Write a main menu, which will offer the user to enter records, show records, or to save&exit.