CSE115L – Programming Language I Lab

Lab – 31

File I/O

Example 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");
}
```

Example 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);
}
```

Example 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);
}
```

Example 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;
}
```

Example 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);
}
```

Example 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);
}
```

Example 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);
}
```

Example 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);
}
```