Module 5 – File Processing

Laboratory Exercises

Objectives

The aim of this lab is for you to develop some practical experience using many of the standard C library functions for processing disk files.

Activities

Problem One

Complete the following program; it prompts for a file name and should then print the contents of the file to the standard output. If the file does not exist, the program should stop with the obvious message.

```
#include <stdio.h>
int main(void)
{
   FILE *fp;
   char c, name[10];
   printf("Enter file name please: ");
   scanf("%s", name);

   /* Fill in this spot */

}
```

Problem Two

Write a program to number lines in a given file. The input file should be received from the command line and the output should be to stdout. The error checks have already been incorporated.

```
#include <stdio.h>
int main(int argc, char **argv)
{
   int line_no = 1;
   int input_char;
   FILE *fp;
   if (argc != 2)
   {
      fprintf(stderr, "Invalid usage: %s \n", argv[0]);
      exit(1);
   }
   if ((fp = fopen(argv[1], "r")) == NULL)
   {
      fprintf(stderr, "File %s: open error\n", argv[1]);
      exit(2);
   }

   /* Add your code here */

}
```

Problem Three

Write a program to populate an array with floating point values, and then write that array in binary format to a disk file, and read it back to verify content. Repeat the above, this time write the array in text format to a disk file, again read it back to verify content. Compare the data file sizes.