EEE101 C Programming and Software Engineering
Solutions to Lab Practice 10

Exercise 1

```
#include<stdio.h>

int main(){
FILE *f1;
char c;

printf("Data Input\n\n");
f1=fopen("INPUT.txt","w");                          /*open the file INPUT*/
while((c=getchar())!=EOF){
        fputc(c,f1);                                /*get characters from keyboard*/
        }
fclose(f1);                                         /*close the file INPUT*/

printf("\nData  Output\n\n");
f1=fopen("INPUT","r");                              /*reopen the file INPUT*/
while((c=fgetc(f1))!=EOF){
        printf("%c",c);                             /*read characters from INPUT*/
        }
fclose(f1);                                         /*close the file INPUT*/
}
```

Exercise 2

```
#include<stdio.h>

void doubleSpace(FILE *ifp, FILE *ofp);

int main( ){
char inName[100], outName[100];
FILE *in, *out;

printf("Enter name of the file to be  copied: ");
scanf("%s", inName);                                    /*get the names from user*/

printf("Enter name of the output file with double spacing: ");
scanf("%s", outName);                                   /*open input and output files*/

if((in = fopen(inName, "r")) ==NULL){
        printf("Can't  open  %s  for reading.\n",inName);
        return 1;
        }

if((out = fopen(outName, "w")) == NULL){
        printf("Can't open %s for reading.\n",outName);
        return 2;
        }

doubleSpace(in,out);                                    /*copy  in to out*/

fclose(in);                                             /*close open files*/
fclose(out);
printf("File with double spacing has been copied.\n");
return 0;
}

void doubleSpace(FILE *ifp, FILE *ofp){
        int c;
        while((c=fgetc(ifp))!= EOF){
                fputc(c,ofp);
                if(c=='\n')
                        fputc('\n',ofp);
                }
        }
```

Exercise 3

The C program writes a file backwards. However, the first character of the file is not written because the reading/writing of the special character EOF and the newline has not been considered in the C program.

Exercise 4

```
#include<stdio.h>

int main(){
FILE *f1, *f2, *f3;
int number,i;
printf("Contents  of  DATA file\n\n");
f1=fopen("DATA.txt","w");
for(i=1;i<=30;i++){
        scanf("%d",&number);
        if(number  ==  -1)
                break;
        putw(number,f1);
        }
fclose(f1);

f1=fopen("DATA","r");
f2=fopen("ODD","w");
f3=fopen("EVEN","w");
while((number=getw(f1)) != EOF){
        if(number%2==0)
                putw(number,f3);
        else
                putw(number,f2);
        }
fclose(f1);
fclose(f2);
fclose(f3);

f2=fopen("ODD","r");
f3=fopen("EVEN","r");
printf("\n\nContents of ODD file\n\n");
while((number = getw(f2))!= EOF){
        printf("%4d",number);
        }
printf("\n\nContents of EVEN file\n\n");
while((number  = getw(f3))!=  EOF){
        printf("%4d",number);
        }
printf("\n");
fclose(f2);
fclose(f3);
}
```