# FILES

```
srilatha@GESLMP22WP7T:~/Experiments$ ls
Operators  Prejoiningass  datastructures  library  make  misc
srilatha@GESLMP22WP7T:~/Experiments$ cd misc/
srilatha@GESLMP22WP7T:~/Experiments/misc$ ls
files  hello1  keywords1  loops  operating  practise  scope_specifiers  sorting_algorithms
srilatha@GESLMP22WP7T:~/Experiments/misc$ cd files/
srilatha@GESLMP22WP7T:~/Experiments/misc/files$ ls
data  data.txt  file  filefunctions.c  filew  filewrite.c  functions  refiles  sys_calls  sys_open.c
srilatha@GESLMP22WP7T:~/Experiments/misc/files$ cat data
Lazy girlLazy girlsrilatha@GESLMP22WP7T:~/Experiments/misc/files$ cat data.txt
srilatha@GESLMP22WP7T:~/Experiments/misc/files$ cat filefunctions.c
#include <stdio.h>

int main()
{

    FILE *fp;
    char c;
    fp  = fopen ("data.txt", "w");
    while ((c = getc(fp)) != EOF) {
}

    fclose (fp);
}
srilatha@GESLMP22WP7T:~/Experiments/misc/files$ cat filewrite.c
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
```

```
#if 0
void main()
{
	FILE *fp = NULL;
	char ch = 'a';
	fp = fopen("abc.txt","w");
	if(fp ==  NULL) {
		printf("file is empty");
		exit(1);
	}
	fputc(ch, fp);
	fclose(fp);
}
#endif
#if 1
void main()
{
	FILE *fp = NULL;
	char ch = 'a';
	fp = fopen("abc.txt","r");
	if(fp ==  NULL) {
		printf("file is empty");
		exit(1);
	}
	fputc(ch, fp);
	fclose(fp);
}
#endif
srilatha@GESLMP22WP7T:~/Experiments/misc/files$ cat sys_open.c
#include<stdio.h>
```

```
#include<unistd.h>
#include<fcntl.h>
#include<sys/stat.h>
#include<sys/types.h>
#include<string.h>

int main()
{
	int fd;
	char buff[10] = "Lazy girl";
	char read_buff[10];

	fd = open( "data", O_CREAT | O_RDWR, 0666);
	write(fd, buff, 10);
	lseek(fd, 0, SEEK_SET);
	read(fd,read_buff,10);
	write(fd,read_buff,10);
	printf("copied data is : %s\n",read_buff);
	close(fd);

	return 0;
}
```

```
srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ ls
f.txt  f2.txt  fprintf   fprintf.txt  fwrite.c   inttofile   myname.txt  opfile.c  readfile.c  writeto3files
f1.txt  f3.txt  fprintf.c  fwrite      fwrite.txt  inttofile.c  opfile     readfile  values.txt  writeto3files.c
```

**dividing a single file into three equal parts and storing in 3 files**

**srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat f.txt**

qwertyuioplkjhgfdsazxcvbnm

**srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat f1.txt**

qwertyui

**srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat f2.txt**

oplkjhgfd

**srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat writeto3files.c**

```
#include<stdio.h>
#include<string.h>
int main()
{
	FILE *fp;
	FILE *fp1;
	FILE *fp2;
	FILE *fp3;
	fp = fopen("f.txt","w+");
	fp1 = fopen("f1.txt","w");
	fp2 = fopen("f2.txt","w");
	fp3 = fopen("f3.txt","w");
	int l;
	char ch;
	int i = 0, j = 0, k = 0;
	char s[100];
	char s1[100];
	char s2[100];
	char s3[100];
	printf("Enter the data");
	fgets(s,100,stdin);
```

```
	fputs(s,fp);
	l = strlen(s) - 1;
	fseek(fp,0,SEEK_SET);
	//while ((ch = fgetc(fp) != EOF) && i <= l) {
		ch = fgetc(fp);
	while( i <= l) {
		if(i < l/3) {
			s1[i] = ch;
			//fputc(ch,fp1);
		} else if (i < 2 * l/3) {
			s2[j] = ch;
			j++;
			//fputc(ch,fp2);
		} else if (i >= 2 * l/3 && i <= l) {
			s3[k] = ch;
			k++;
			//fputc(ch,fp3);
		}
		ch = fgetc(fp);
		i++;
	}
	fprintf(fp1,"%s\n",s1);
	fprintf(fp2,"%s\n",s2);
	fprintf(fp3,"%s",s3);
}
srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat fprintf.txt
My name is qwe
 My name is poiuy
 My name is lkjhg
 srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat fprintf.c
```

```
#include<stdio.h>
#include<fcntl.h>
#define MAX 50
int main()
{
	char name[MAX];
	char name1[MAX];
	char *str;
	FILE *fp;
	int n;
	int i;
	fp = fopen("fprintf.txt","w");
	printf("Enter the name");
	scanf("%s",name);
	fprintf(fp,"My name is %s\n ",name); // writes to file
	printf("Enter the number of names:");
	scanf("%d",&n);
	for(i = 1; i <= n; i++) {
		printf("Enter the name");
		scanf("%s",name1);
		fprintf(fp,"My name is %s\n ",name1); // writes to file
	}
	fclose(fp);
	fp = fopen("fprintf.txt","r");
	while(fscanf(fp," %s ",name) != EOF)  // writes to file
		printf("%s ",name);
	fclose(fp);
	return 0;
}
```

srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat fwrite.txt

Now i can use file handling functions

**srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat fwrite.c**

```
#include<stdio.h>
#include<fcntl.h>
#define MAX 100
int main()
{
	FILE *fp;
	fp = fopen("fwrite.txt","w");
	char arr[MAX];
	char str[MAX] = "Now i can use file handling functions\n";
	fwrite(str,1,sizeof(str),fp); //writes to file
	fclose(fp);
	//FILE *fp;
	fp = fopen("fwrite.txt","r");
	fread(arr,1,MAX,fp); // reads from file
	printf("%s",arr);
	fclose(fp);
	return 1;
}
```

srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat inttofile.c

```
#include<stdio.h>
#include<fcntl.h>
int main()
{
	FILE *fp;
	fp = fopen("values.txt","w");
```

```
	int value;
	int i;
	int j;
	printf("Enter the value: ");
	scanf("%d", &value);
	putw(value, fp); // to put a value into file
	for (i = 1; i <= 10; i++) { //to put mant values to file
		putw(i,fp);
	}
	fclose(fp);
	fp = fopen("values.txt","r");
	value = getw(fp); // to read value from file
	printf("%d",value);
	for (i = 1; i <= 10; i++) {  // to read multiple values from file
		j = getw(fp);
		printf("%d",j);
	}
	fclose(fp);
}

srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat myname.txt
s jidugu
srilatha jidugu
srilatha jidugurilathasrilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat opfile.c
#include<stdio.h>
#include<fcntl.h>
#define SIZE 10

int main()
{
```

```
	FILE *fptr;
	fptr = fopen("myname.txt","w");
	char c;
	char name[10];
	printf("Enter the char");
	scanf("%c",&c);
	fputc(c,fptr); /* wrirting a character */
	printf("Enter the name");
	scanf("%s",name);
	while ((c = getchar()) != EOF) {  //witing string using fputc, while loop //press ctrl+d to stop reading characters
		fputc(c, fptr);
	}
	fputs(name,fptr);/* writing a string */
	fclose(fptr);
	return 0;
}
srilatha@GESLMP22WP7T:~/Experiments/misc/files/refiles$ cat readfile.c
#include<stdio.h>
#include<stdlib.h>
#include<fcntl.h>
int main()
{
	char c;
	char ch;
	FILE *fp;
	fp = fopen("myname.txt","r");
	if (fp == NULL) {
		printf("Empty file");
		exit(1);
```

```
	}
	c = fgetc(fp); //reads character by character
	printf("%c",c);
		//ch = fgetc(fp);
	while(ch != EOF) { // to read entire file content char by char
		ch = fgetc(fp);
		printf("%c",ch);
	}
	fclose(fp);
	return 0;
}
```

**OTHERS**

```
srilatha@GESLMP22WP7T:~/Experiments/misc$ cd keywords1/
srilatha@GESLMP22WP7T:~/Experiments/misc/keywords1$ la
key  key.c  keywords  keywords.c
srilatha@GESLMP22WP7T:~/Experiments/misc/keywords1$ cat key.c
#include<stdio.h>
int main()
{
	#if 0
```

```
	char arr[][32] = {"float","int","long","unsigned","while","for","register","extern","static"\
				,"double","return","if","goto","void","auto","union","enum","short","case"\
,"signed","continue","do","switch","else","char","const","struct","default","typedef","volatile","sizeof"};
	for(int i = 0; i < 31; i++) {
		printf("%s \n", arr[i]);
	}
	#endif
	#if 0
	char a[][10] = {"asrilatha","jack" };
	printf("%c", a[9][2]);
	#endif
	#if 0
	char str[10]={"string\n"};
	str[6]='\0';
	printf("%s\n",str);
#endif
	#if 1
	char str[10]={"string\n"};
//	 str[6]='\0';
	for(int i=0; i<=6; i++) {
		printf("%c\n",str[i]);
	}
#endif

	return 0;
}

srilatha@GESLMP22WP7T:~/Experiments/misc/keywords1$ cat keywords.c
#include<stdio.h>
```

```
int main()
{
	char str[100][100];
	int size;
	int i;
	int j;
	printf("Enter the size :");
	scanf("%d", &size);
		for(i = 0; i <= size; i++) {
			scanf("%s",str[i]);
		}
		printf("keywords are:");
		for(i = 0; i <= size; i++) {
			printf("\n%s  ",str[i]);
		}
	return 0;
}
srilatha@GESLMP22WP7T:~/Experiments/misc/loops$ ls
example.c  while  while.c
srilatha@GESLMP22WP7T:~/Experiments/misc/loops$ cat example.c
#include<stdio.h>
int main()
{
	void while1();
	void while2();
	void while3();
	void while4();
	int choice;
	printf("\n 1.first\n2.second\n3.third\n4.fourth");
```

```
	printf("Enter your choice");
	switch(choice) {
		case 1:
			while1();
			break;
		case 2:
			while2();
			break;
		case 3:
			while3();
			break;
		case 4:
			while4();
			break;
		defult:
			printf("Exit");
			break;
	return 0;
	}
}
void while1()
{
	int j;
	while(j <= 10) {
		printf("\n%d");
		j = j + 1;
	}
}
void while2()
{
```

```
	int i = 1;
	while(i <= 10); {
		printf("\n%d",i);
		i++;
	}
}
void while3()
{
	char x;
	while(x = 0; x <= 255; x++) {
		printf("%d", x);
		printf("%c", x);
	}
}
void while4()
{
	int x = 1;
	while(x == 1) {
		x = x - 1;
		printf("\n%d", x);
	}
}
srilatha@GESLMP22WP7T:~/Experiments/misc/loops$ cat while.c
#include<stdio.h>
/*#define one i
#define two x
#define three 1
#define four j*/
#if 1
	void main()
```

```
	{
		int i;
		//while(i <= 10) {
		for(i = 0; i < 3; i++) {
			printf("\n%d", i);
			//i++;
		}
	}
#endif
#if 0
	void main()
	{
		char x;
		while(x = 0; x <= 255; x++) {
			printf("%d", x);
			printf("%c", x);
		}
	}
#endif
#if 0
	void main()
	 {
		int x = 1;
		while(x == 1) {
			x = x - 1;
			printf("\n%d", x);
		}
	}
#endif
#if 0
```

```
	void main()
	{
		int j;
		while(j <= 10) {
			printf("\n%d",j);
			j = j + 1;
		}
	}
#endif
```

**SCOPE OF VARIABLES**

```
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers$ ls
scopevar  specifiers
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers$ cd scopevar/
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar$ ls
hdr  obj  src  varscope
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar$ cd hdr/
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/hdr$ cat header.h
#include<stdio.h>

void func1();
void func2();
void func3();
void func4();
void func5();
```

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/hdr$ cd ../

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar$ cd src/

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/src$ cat main.c

```
#include"header.h"

int a = 10;
int main()
{
	func1();
	func2();
	func3();
	func4();
	func5();
return 0;
}
```

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/src$ cat func1.c

```
#include"header.h"

extern int a;
 int d = 50;
void func1()
{
	printf("a is %d\n", a);
	printf("d is %d\n", d);
}
/*
void func2()
```

```
{
	printf("a is %d\n", a);
	printf("d is %d\n", d);
}
*/
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/src$ cat func2.c
#include"header.h"

extern int a;
int c = 20;
void func4()
{
	printf("a is %d\n", a);
	printf("c is %d\n", c);
}
/*
void func5()
{
	printf("a is %d\n", a);
	printf("c is %d\n", c);
}*/
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/src$ cat func3.c

#include"header.h"

extern int a;
int b = 30;
void func3()
```

```
{
	printf("a is %d\n", a);
	printf("b is %d\n", b);
}

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/src$ cat func4.c
#include"header.h"
extern int a;
extern int d;
void func2()
{
	printf("a is %d\n", a);
	printf("d is %d\n", d);
}
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/scopevar/src$ cat func5.c
#include"header.h"

extern int a;
extern int c;
void func5()
{
	printf("a is %d\n", a);
	printf("c is %d\n", c);
}

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers$ cd specifiers/
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/specifiers$ ls
char  char.c  example  example.c  float  float.c  int  int.c  int.i  integer
```

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/specifiers$ cat int.c

```
#include<stdio.h>
#define data5 'A'
#define data4 65
int main()
{
	//char data;
	#ifdef data
	printf("%c\n",data5);
	#endif
	#ifdef data1
	printf("%c\n",data4);
	#endif
	/*above 2 codes are %c convert data in character*/
	#ifdef data1
		printf("%d\n",data1);
		printf("%i\n",data1);
		/* %d and %i behave same way in case of printf whereas they are different in case of scanf" */
		printf("%u\n",data);
		/* the %d format specifier takes the integer number as decimal but the %i format specifier takes the integer number as decimal,
		  hexadecimal or octal type. it means the %i automatically identified the base of the input integer number.*/
	#endif
	int data1,data2,data3;
	printf("Enter the value in decimal format :");
	scanf("%d",&data1);
	printf("data1 = %i\n",data1);
	printf("Enter the value in hexadecimal format :");
```

```
    scanf("%i",&data2);
    printf("data2 = %i\n",data2);
    printf("Enter the value in octal format :");
    scanf("%i",&data3);
    printf("data3=%i\n",data3);
    return 0;
}
srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/specifiers$ int float.c

Command 'int' not found, but there are 16 similar ones.

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/specifiers$ cat char.c
#include<stdio.h>
int main()
{
    #if 0
        unsigned char ch1 = 260;
        unsigned char ch2 = -60;
        printf("%c %c", ch1, ch2);
        return 0;
    #endif
    #if 0
        signed char ch1 = 130;
        signed char ch2 = -130;
        printf("%c %c", ch1 ,ch2);
    #endif
    #if 0
        int num;
```

```
        for(num = 97; num <=122; num++) {
            printf("%c",num);
        }
    #endif
    #if 0
        int num;
        for(num = 97; num <=122; num++) {
            printf("%c",num);
        }
    #endif
    #if 0
        int num1 = 9;
        int num2 = 5;
        float div = num1 / num2;
      printf("%f", div);
    #endif
    #if 1
        int num1 = 9;
        int num2 = 5;
        float div = (float)num1 / num2;
      printf("%f", div);
    #endif
}

srilatha@GESLMP22WP7T:~/Experiments/misc/scope_specifiers/specifiers$ cat example.c
#include<stdio.h>
int main()
{
```

```
    unsigned int num = 192;
    unsigned char ch;
    ch = num;
    printf("%d\n", ch);
    printf("%c\n", ch);
    return 0;
}
```