Pre-requisite Practical 1

Definition: Write a program to print the string “This is the practical session of system programming”

Code:

```
#include<stdio.h>
#include<conio.h>
void main(){
	char s1[80];
	clrscr();
	printf("Enter string:");
	gets(s1);
	puts(s1);
	getch();
}
/*
Output
Enter string:This is first practical session of system programming
This is first practical session of system programming
*/
```

Pre-requisite Practical 2

Definition: Write a program to print the paragraph

Code:

```
#include<stdio.h>
#include<conio.h>
void main(){
        char p1[80];
        clrscr();
        printf("Enter the paragraph ending with $:");
        scanf("%[^$]s",&p1);
        printf("\n %s",p1);
        getch();
}
/*
Output
Enter the paragraph ending with $:C language provides facility of file input-out
put operations$

 C language provides facility of file input-output operations
*/
```

Pre-requisite Practical 3

Definition: Write a program to implement following user defined functions

Length of string
Copy one string to another
Concatenate two strings
Compare two strings
Reverse the string

Code:

```
#include<stdio.h>
#include<conio.h>
int len1(char[]);
void copy1(char[],char[]);
void concat1(char[],char[]);
int comp1(char[],char[]);
void rev1(char[]);
void main() {
	char s1[20],s2[20],c1[20],c2[20],r[20];
	int c,d;
	clrscr();
	printf("Enter the string:");
	gets(s1);
	c = len1(s1);
	printf("\n Length is %d",c);
	printf("\n Enter second string:");
	gets(s2);
	copy1(s2,s1);
	printf("\n Copied string is %s",s2);
	printf("\n Enter string to concate:");
	gets(c1);
	concat1(s1,c1);
	printf("\n Enter two strings to compare:");
	gets(c2);
	gets(r);
	printf("\n Comparison:");
		if(comp1(c2,r) == 0)
			printf("\n Same");
		else
			printf("\n Different");
```

```
	printf("\n Reversed string: ");
	rev1(s1);
	getch();
}
int len1(char s1[]){
	int i;
	for(i=0;s1[i] != '\0'; i++);
	return i;
}
void copy1(char s2[],char s1[]){
	int i;
	for(i=0;s1[i]!='\0'; i++){
		s2[i] = s1[i];
	}
	s2[i] = '\0';
}

void concat1(char s1[],char c1[]){
	int i,j;
	for(i=len1(s1), j=0; c1[j]!='\0';i++,j++){
		s1[i] = c1[j];
	}
	s1[i] = '\0';
	printf("\n Concated string is %s",s1);
}
int comp1(char c2[], char r[]){
	int c = 0;
	while(c2[c] == r[c]){
		if(c2[c] == '\0'|| r[c] == '\0')
		break;
		c++;
	}
	if(c2[c] == '\0' && r[c] == '\0')
		return 0;
	else
		return -1;
}
void rev1(char s1[]){
	int i;
	for(i=len1(s1); i>=0; i--){
```

```
                printf("%c",s1[i]);
        }
}
/*
Output
Enter the string:Rahul

 Length is 5
 Enter second string:soni

 Copied string is Rahul
 Enter string to concate:soni

 Concated string is Rahulsoni
 Enter two strings to compare:hello
rahul

 Comparison:
 Different
 Reversed string: inosluhaR
 */
```

Pre-requisite Practical 4

Definition: Write a program to count characters and spaces from given string.

Code:

```
#include<stdio.h>
#include<conio.h>
void main(){
	char s1[50];
	int c;
	clrscr();
	printf("Enter string till $:");
	scanf("%[^$]s",&s1);
	c=len1(s1);
	printf("Total number of characters and spaces are %d",c);
	getch();
}
int len1(char s1[]){
	int i;
	for(i=0; s1[i]!='\0';i++);
	return i;
}
/*
Output
Enter string:hello world
Total number of characters and spaces are 11
*/
```

Pre-requisite Practical 5

Definition: Write a program to read data from keyboard, write it to a file called STUDENT.txt. Again read the data from the file STUDENT.txt and display on the screen

Code:

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
struct stud
{
        int rno;
        char nm[100];
};
void main()
{
        struct stud *s;
        int n,i;
        char ch;
        FILE *fp;
        clrscr();
        printf("Enter record numbers: ");
        scanf("%d",&n);
        s=(struct stud *)malloc(n*sizeof(struct stud));
        fp=fopen("STUDENT.txt","w");
        for(i=0;i<n;i++)
        {
            printf("\n\tInformation for student : %d\n",i+1);
            printf("Enter Roll No : ");
            scanf("%d",&s[i].rno);
            printf("Enter Name : ");
            fflush(stdin);
            gets(s[i].nm);
            fprintf(fp,"%5d %-20s\n",s[i].rno,s[i].nm);
        }
        fclose(fp);
        fp=fopen("STUDENT.txt","r");
        printf("\nContent of the STUDENT.txt file is\n");
        printf("Roll No  Name\n");
        printf("--------------------------\n");
```

```
        do{
                ch = fgetc(fp);
                putchar(ch);
}
        while(ch != EOF);
        fcloseall();
        getch();
 }
/*
 Output
 Enter record numbers: 3

        Information for student : 1
Enter Roll No : 1
Enter Name : rahul

        Information for student : 2
Enter Roll No : 2
Enter Name : yash

        Information for student : 3
Enter Roll No : 3
Enter Name : vikash

Content of the STUD.txt file is
Roll No  Name
---------------------------
   1 rahul
   2 yash
   3 vikash
*/
```

Practical 1

Definition: Write a program to count words from a paragraph. (using simple string array and pointer both)

Code: (Simple string array)

```
#include<stdio.h>
#include<conio.h>
void main(){
	char s1[50];
	int i=0,space=0,words=0,l=0,charac=0;
	clrscr();
	printf("\nWrite your Paragraph till $ : ");
	scanf(" %[^$]s",s1);
	printf("\nEntered paragraph is : ") ;
	puts(s1);
	for(i=0;s1[i]!='\0';i++){
		 l++;
		if(s1[i]==' ')
		space++;
		}
	printf("\n length==%d",l);
	charac=l-space;
	printf("\n No of characters are=%d",charac);
	words=space+1;
	printf("\n No of words are=%d",words);
	getch();
}
/*
Output
Write your Paragraph till $ : hello this is the new world$
Entered paragraph is : hello this is the new world
 length==27
 No of characters are=22
 No of words are=6
*/
```

Practical-1.2

Code: (Pointer)

```
#include<stdio.h>
#include<conio.h>
void main(){
	char *s1, *s2;
	int space=0,words=0,l=0,charac=0;
	clrscr();
	printf("\nWrite your Paragraph : ");
	gets(s2);
	puts(s2);
	s1=s2;
	for(;*s2!=NULL;s2++){
		if(*s2==' ')
		space++;
		}
	l=s2-s1;
	printf("\n len==%d",l);
	charac=l-space;
	printf("\n No of chars are=%d",charac);
	words=space+1;
	printf("\n No of words are=%d",words);
	getch();
}

/*
Output
Write your Paragraph : hello this is the new world
hello this is the new world

 len==27
 No of chars are=22
 No of words are=6
*/
```

Practical-2

Definition: Implement file handling program

Code: (Write to a file and read from it)

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main(){
	char ch;
	FILE *fp;
	clrscr();
	fp=fopen("name.txt","w");
	printf("Enter string till $");
	while(1){
		scanf("%c",&ch);
		if(ch == '$')
		break;
		fputc(ch,fp);
	}
	fclose(fp);
	fp=fopen("name.txt","r");
	printf("\nContent of the name.txt file is\n");
	printf("String\n");
	do{
		ch = fgetc(fp);
		putchar(ch);
	}
	while(ch != EOF);
	fcloseall();
	getch();

}
/*
Output
Enter string till $hello world is too common$
Content of the name.txt file is
String
hello world is too common

*/
```

Practical-2.1

Code: (Take integers as input from user, store it to a file and sort them as odd and even in two separate files, name odd and even respectively and display it to the user.)

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main(){
FILE *fp,*o1,*e1;
int numbers,n,i;
clrscr();
printf("Enter n");
scanf("%d",&n);
fp=fopen("Numbers.txt","w");
for(i=1;i<=n;i++){
        printf("\n Enter numbers:");
        scanf("%d",&numbers);
        putw(numbers,fp);
}
fclose(fp);
fp = fopen("Numbers.txt","r");
printf("\nNumbers are:");
        while((numbers = getw(fp)) != EOF)
        printf(" %4d",numbers);
fp = fopen("Numbers.txt","r");
o1 = fopen("Odd.txt","w");
e1 = fopen("Even.txt","w");
while((numbers = getw(fp)) != EOF){
        if(numbers %2 == 0)
                putw(numbers, e1);
        else
                putw(numbers, o1);
        }
fcloseall();
o1 = fopen("Odd.txt","r");
e1 = fopen("Even.txt","r");
        printf("\n Odd numbers are:");
        while((numbers = getw(o1)) != EOF)
        printf("%4d",numbers);
```

```
        printf("\n Even numbers are:");
        while((numbers = getw(e1)) != EOF)
        printf("%4d",numbers);
fcloseall();
getch();
}
/*
Output
Enter n5

 Enter numbers:10

 Enter numbers:2

 Enter numbers:8

 Enter numbers:1

 Enter numbers:12

Numbers are:   10    2    8    1   12
 Odd numbers are:   1
 Even numbers are:  10   2   8  12
*/
```