

Enter number of students : 2

Enter details of Student 1:

Roll.No : 101

Name : Raj

Marks : 85.5

Enter details of Student 2:

Roll.No : 95

Name : Shyam

Marks : 74

Name	Roll.No	Marks
Raj	101	85.5
Shyam	95	74

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## Lab 9

Q1 Write a program to define a Structure Student. Take input in structure & display in tabular form.

```
#include <stdio.h>
int main ()
```

```
{
    struct Students
```

```
{
    int rollNo;
    char name[50];
    float marks;
}
```

```
int main ()
```

```
{
    int n, i;
    printf ("Enter number of Students : ");
    scanf ("%d", &n);
}
```

```
struct Student s[n];
for (i=0; i<n; i++)
{
```

```
    printf ("\n Enter details of Student %d: \n", i+1);
    printf ("Roll.No: ");
    scanf ("%d", &s[i].rollNo);
    printf ("Name: ");
    scanf ("%s", s[i].name);
    printf ("Marks: ");
```

```
scanf ("%f", &s[i].marks);  
}  
printf (" ..... \n");  
for (i = 0 ; i < n ; i++)  
{  
printf ("% -10d % -20s % -10.2f \n", s[i].rollno,  
s[i].name, s[i].marks);  
}  
return 0;  
}
```

Enter the number of students : 3

Enter details for Student 1:

Roll Number : 107

Name : Raj

Marks : 65.5

Enter details for Student 2:

Roll Number : 96

Name : Shyam

Marks : 85

Enter details for Student 3:

Roll Number : 101

Name : Yash

Marks : 96

Student Sorted by Roll.No

Roll No	Name	Marks
96	Shyam	85
101	Yash	96
107	Raj	65.5

Enter Roll number to search : 100  
Student not found.

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Q2 Write a program to sort structure according to Roll.No. in ascending order & start an search an entry from Roll.No.

```
#include <stdio.h>
```

```
#include <string.h>
```

```
struct student
```

```
{
```

```
int roll-no;
```

```
char name[50];
```

```
float marks;
```

```
}
```

```
void sort by RollNo (struct student s[], int n)
```

```
{
```

```
struct student temp;
```

```
for (int i=0; i<n; i++)
```

```
{
```

```
for (int j=i+1; j<n; j++)
```

```
{
```

```
if (s[i].roll-no > s[j].roll-no)
```

```
{
```

```
temp = s[i];
```

```
s[i] = s[j];
```

```
s[j] = temp;
```

```
}
```

```
}
```

```
}
```



```
void search by Roll no (struct Student s[], int n,  
                        int roll)
```

```
{
```

```
    int found = 0;
```

```
    for (int i = 0; i < n; i++)
```

```
    {
```

```
        if (s[i].roll-no == roll)
```

```
        {
```

```
            printf("\n Student found: \n");
```

```
            printf("Roll no: %.d \n", s[i].roll-no);
```

```
            printf("Name: %.s \n", s[i].name);
```

```
            printf("Marks: %.2f \n", s[i].marks);
```

```
            found = 1;
```

```
            break;
```

```
        }
```

```
    }
```

```
    if (!found)
```

```
    {
```

```
        printf("\n student with Roll no %.d not  
        found \n", roll);
```

```
    }
```

```
}
```

```
int main()
```

```
{
```

```
    int n;
```

```
    printf("Enter the number of student: ");
```

```
    scanf("%d", &n);
```

```
    struct Student s[n];
```

```
    for (int i = 0; i < n; i++)
```

```
    {
```

```
printf("/n Enter details for Student %.d : \n, i+1);
printf("Roll Number : ");
scanf("%.d", &S[i].rollno);
printf("Name : ");
scanf("%. [^\n]", S[i].name);
printf("Marks : ");
scanf("%. f", &S[i].marks);
}
SortByRollNo(S, n);
printf("/n Students sorted by Roll number: \n");
printf("%. -10s %. -20s %. -10s \n", S[i].roll-no,
    S[i].name, S[i].marks);
}
int Search-roll;
printf("/n Enter roll number to Search : ");
scanf("%.d", &Search-roll);
SearchByRollNo(S, n, Search-roll);
return 0;
}
```

Enter your name: Paron Vasa

Enter your age: 19

Data written to file successfully

Reading data from file:

Name: Paron Vasa

Age: 19

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## Lab 10

Q1) Write a program to demonstrate the operation of open, write, read & close file.

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int main()
```

```
{
```

```
    file *fp;
```

```
    char name[50];
```

```
    int age;
```

```
    fp = fopen("student.txt", "w");
```

```
    if (fp == null)
```

```
{
```

```
        printf("Error opening file for writing!\n");
```

```
        exit(1);
```

```
}
```

```
    printf("Enter your name: ");
```

```
    scanf("%s", name);
```

```
    printf("Enter your age: ");
```

```
    scanf("%d", &age);
```

```
    fprintf(fp, "%s\n%d\n", name, age);
```

```
    fclose(fp);
```

```
    printf("\n Data written to file successfully.\n");
```

```
    fp = fopen("student.txt", "r");
```



```
if (fp == null)
```

```
{
```

```
printf("Error opening file for reading! \n");
```

```
exit(1);
```

```
}
```

```
printf("\n reading data from file : \n");
```

```
fscanf(fp, "%[^\\n]", name);
```

```
fscanf(fp, "%d", &age);
```

```
printf("Name : %s \n", name);
```

```
printf("Age : %d \n", age);
```

```
fclose(fp);
```

```
return 0;
```

```
}
```

Enter Source File name : original.txt

Enter destination file name : copy.txt

File Copied Successfully

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Q2 Write a program to copy the content of one file to another file using file handling in C

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int main()
```

```
{
```

```
File * source File, * dest File;
```

```
char source File name [100], dest File name [100];
```

```
char ch;
```

```
printf("Enter the Source file name :");
```

```
scanf("%s", source File name);
```

```
printf("Enter the destination file name :");
```

```
scanf("%s", dest File name);
```

```
Source File = fopen(source File name, "r");
```

```
if (Source File == NULL)
```

```
{
```

```
printf("Error: cannot open source file.\n");
```

```
exit(1);
```

```
}
```

```
dest File = fopen(dest File name, "w");
```

```
if (dest File == NULL)
```

```
{
```

```
printf("Error: cannot open destination file.\n");
```

```
fclose(source File);
```

```
exit(1);
```



```
}  
while ((ch = fgetc (source file)) != EOF)  
{  
    fputc fputc (ch, dest file);  
}  
printf ("File copied successfully \n");  
fclose (source file);  
fclose (dest file);  
return 0;  
}
```

10 20 30  
 40  
 50  
 Sum of numbers = 150

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Q3 Write a program in C to read data from text file, perform addition of the data & write the result to another file.

```
#include <stdio.h>
#include <stdlib.h>
```

```
int main()
```

```
{
    File *input file, *output file;
    char inputfilename[100], outputfilename[100];
    int number, sum=0;
```

```
    printf("Enter input file name : ");
    scanf("%s", inputfilename);
    printf("Enter output file name : ");
    scanf("%s", outputfilename);
    inputfile = fopen(inputfilename, "r");
    if (inputfile == NULL)
```

```
{
    printf("Error: could not open input file\n");
    fclose(inputfile);
    return 1;
}
```

```
while (fscanf(inputfile, "%d", &number) == 1)
{
    sum += number;
}
```

```
fprintf(outputfile, "Sum of numbers = %d\n", sum);
printf("Sum calculated & written to '%s'\n", outputfilename);
```

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```
outputfilename);  
fclose(inputfile);  
fclose(outputfile);  
return 0;  
}
```