

EXPERIMENT NO: 13

TITLE: Implement structures to read, write, compute average-marks and the students scoring above and below the average marks for a class of N students.

AIM: To find students who have above and below average marks

PROGRAM:

```
#include<stdio.h>
struct student
{
    int usn, marks;
    char name[20];
};
void main()
{
    int i, n;
    float total=0,avg;
    struct student s[20];
    printf("Enter the number of student\n");
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        printf("Enter the %d student details\n",i+1);
        printf("Enter the USN:");
        scanf("%d",&s[i].usn);
        printf("Enter the student name without white spaces:");
        scanf("%s",s[i].name);
        printf("Enter the marks:");
        scanf("%d",&s[i].marks);
        total=total+s[i].marks;
    }
    avg=total/n;
    printf("Students scored above the average marks\nUSN\tNAME\tMARKS\n");
    for(i=0;i<n;i++)
    {
        if(s[i].marks>=avg)
        {
            printf("%d\t%s\t%d\n", s[i].usn,s[i].name,s[i].marks);
        }
    }
    printf("Students scored below the average marks\nUSN\tNAME\tMARKS\n");
    for(i=0;i<n;i++)
    {
        if(s[i].marks<avg)
        {
            printf("%d\t%s\t%d\n", s[i].usn,s[i].name,s[i].marks);
        }
    }
}
```

OUTPUTS:

```
Enter the number of student
4
Enter the 1 student details
Enter the USN:123
Enter the student name without white spaces: Ben
```

Enter the marks: 56
Enter the 2 student details
Enter the USN:124
Enter the student name without white spaces: John
Enter the marks: 36
Enter the 3 student details
Enter the USN:125
Enter the student name without white spaces: Smith
Enter the marks: 64
Enter the 4 student details
Enter the USN:126
Enter the student name without white spaces: Ramesh
Enter the marks: 65

Students scored above the average marks

USN	NAME	MARKS
123	Ben	56
125	Smith	64
126	Ramesh	65

Students scored below the average marks

USN	NAME	MARKS
124	John	36

ALGORITHM:

STEP 1: START

STEP 2: READ n, the number of students

STEP 3: READ details of students i.e., name, USN, marks

STEP 4: COMPUTE total marks
total=total+s[i].marks

STEP 5: COMPUTE average marks of the class
avg=total/n

STEP 6: CHECK if student has scored above or below the average and print the same.

Above average marks

```
for(i=0;i<n;i++)  
{  
    if(s[i].marks>=avg)  
        Print name, USN, mark  
}
```

Below average marks

```
for(i=0;i<n;i++)  
{  
    if(s[i].marks<avg)  
        Print name, USN, mark  
}
```

STEP 7: STOP

FLOWCHART:

