

Ex. No15 **Calculate Subject wise, Student wise Total and Store them as Part of Structure**

Aim:

To write a C program to calculate subject wise and student wise totals and store them as part of a structure.

Algorithm:

- 1) Start the program.
- 2) Declare a structure 'cse' to store student 'name', 3 'mark' and 'total'.
- 3) Declare variables 'i', 'j', 'n', 'subj\_tot'.
- 4) Declare a two dimensional character array 'subj' to store 3 subject names "BEEE", "OS" and "C Prog".
- 5) Get number of students 'n'.
- 6) For i equal to 0 to n do the following
  - a). Get student 'name'.
  - b). Assign 0 to 'total'.
  - c). For j equal to 0 to 3 do the following
    - i). Get each subject 'mark'.
    - ii). Calculate 'total' as 'mark' added to 'total'.
- 7) For i equal to 0 to 3 do the following
  - a). Assign 0 to 'subj\_tot'.
  - b). For j equal to 0 to n do the following
    - i). Calculate 'subj\_tot[i]' as 'cse[j].mark[i]' added to 'subj\_tot[i]'.
- 8) Display student details.
- 9) For i equal to 0 to n do the following
  - a). Display student 'name'.
  - b). For j equal to 0 to 3 do the following
    - i). Display subject 'subj' and 'mark' details.
  - c). Display total 'total'.
- 10) Display "Subject wise total of 'n' students"
- 11) For j equal to 0 to 3 do the following
  - a). Display subject 'subj' and 'subj\_tot'

12) Strop the program.

Program:

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

struct student
{
char name[30];
int mark[3];
int total;
}cse[15];

void main()
{
int i,j,subj_tot[3],n;
char subj[3][20]={"BEEE","OS","C Prog"};
clrscr();
printf("\nEnter Number of Students: ");
scanf("%d",&n);
printf("Enter student details\n");
for(i=0;i<n;i++)
{
printf("\nEnter Student Name: ");
scanf("%s",cse[i].name);
cse[i].total=0;
for(j=0;j<3;j++)
{
printf("Enter %s Mark: ",subj[j]);
scanf("%d",&cse[i].mark[j]);
cse[i].total+=cse[i].mark[j];
}
}
}
```

```

for(i=0;i<3;i++)
{
    subj_tot[i]=0;
    for(j=0;j<n;j++)
    {
        subj_tot[i]+=cse[j].mark[i];
    }
}
printf("\nStudent Details\n");
for(i=0;i<n;i++)
{
    printf("\nName: %s\n",cse[i].name);
    printf("\nSubject\tMark");
    for(j=0;j<3;j++)
    {
        printf("\n%s\t%d",subj[j],cse[i].mark[j]);
    }
    printf("\nTotal\t%d\n",cse[i].total);
    getch();
}
printf("\nSubject wise total of %d students\n",n);
printf("\nSubject\tTotal");
for(j=0;j<3;j++)
    printf("\n%s\t%d",subj[j],subj_tot[j]);
getch();
}

```

### Result:

Thus the C program to calculate subject wise and student wise totals and store them as part of a structure is executed successfully.