Practical 16

Aim : Write and execute two simple programs using array of structures and array within structure.

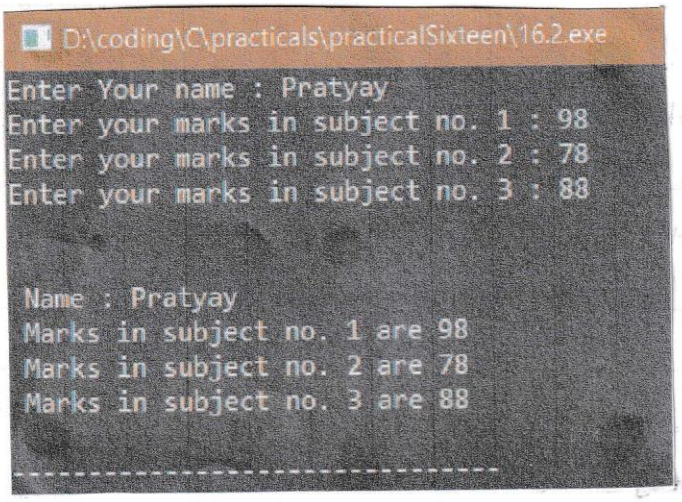
Theory:

An array of structures in C can be defined as the collection of multiple structures ~~variables~~ variables where each variable contains information about different entities. The array of structures in C are used to store information about multiple entities of different data types.

Code:

1) Using array of structures:

```
#include<stdio.h>
int main(){
    Struct Student {
        int no;
        int age;
        int marks;
    };
    int i;
    Struct Student a[3];

for (i=0;i<3;i++){
    printf(" Student no. :%d\n",i+1);
    printf(" Enter roll no. : ");
    Scanf(":%d ",&a[i].no );
    printf (" Enter age : ");
    Scanf("%d",&a[i].age );
```

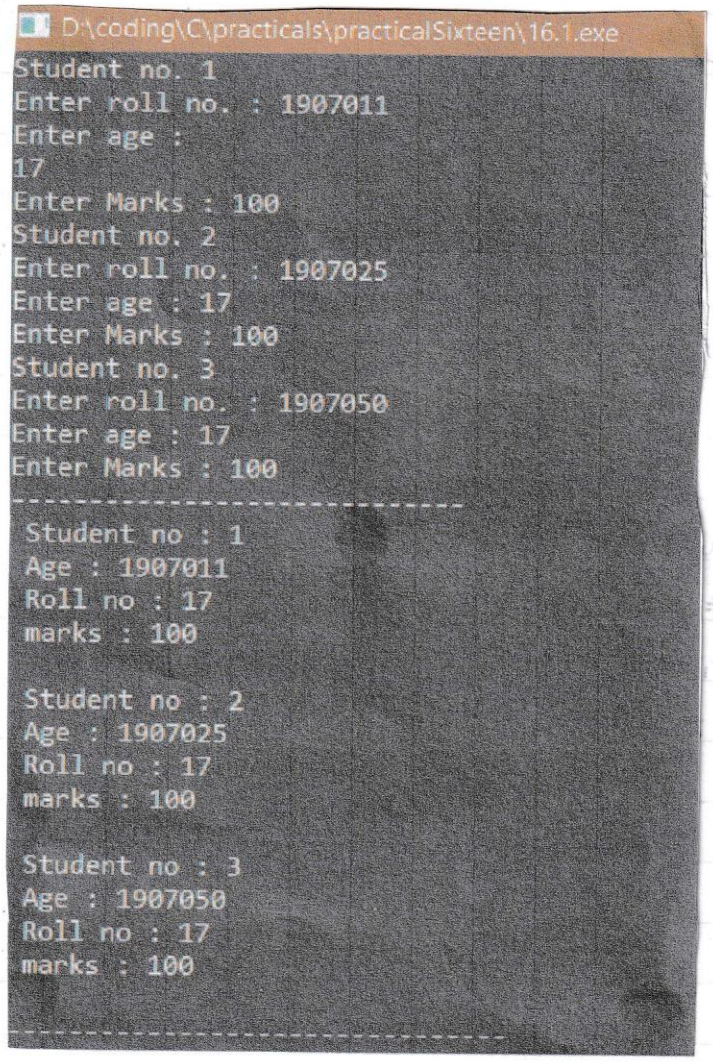

D:\coding\C\practicals\practicalSixteen\16.2.exe
Enter Your name : Pratyay
Enter your marks in subject no. 1 : 98
Enter your marks in subject no. 2 : 78
Enter your marks in subject no. 3 : 88
Name : Pratyay
Marks in subject no. 1 are 98
Marks in subject no. 2 are 78
Marks in subject no. 3 are 88

```
    printf("Enter marks : ");
    scanf("%d",&a[i].marks);
  }
 printf("----------");
 for(i=0;i<3;i++){
  printf("\n Student no : %d \n Age : %d \n Rollno : %d \n marks :
      %d \n",i+1,a[i].no,a[i].age,a[i].marks);
 }}

}
```

2) Using Array within Structure :

```
#include<stdio.h>
#include<conio.h>
 int main(){
   Struct ex {
       int char name[20];
          int marks[3];
        } a;
  int i;

 printf("Enter your name : ");
 Scanf("%s",&a.name);
 For(i=0;i<3;i++){
   printf("Enter your marks in subject no. %d : ",i+1);
   Scanf("%d",&a.marks[i]);
 }}
```

Shree Radhe


D:\coding\C\practicals\practicalSixteen\16.1.exe
Student no. 1
Enter roll no. : 1907011
Enter age :
17
Enter Marks : 100
Student no. 2
Enter roll no. : 1907025
Enter age : 17
Enter Marks : 100
Student no. 3
Enter roll no. : 1907050
Enter age : 17
Enter Marks : 100
Student no : 1
Age : 1907011
Roll no : 17
marks : 100
Student no : 2
Age : 1907025
Roll no : 17
marks : 100
Student no : 3
Age : 1907050
Roll no : 17
marks : 100

```
printf("\n\n Name : %s \n", a.name);
for(i=0 ;i<3;i+1){
    printf("Marks in subject no. %d are %d \n", i+1, a.marks[i]);
    }
}
```

Conclusion :

Hence, I wrote and executed two simple programs using array of structure and array within structure.