Paper Name: Programming Concepts

Topic: Pointers in Structures

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POINTERS IN STRUCTURES

C structure can be accessed in two different ways in a C program. They are:-

1. Using normal structure variable
2. Using pointer variable

Dot (.) operator is used to access the data using normal structure variable and arrow (->) is used to access the data using pointer variable. This arrow is also typed in the program using two characters – and > symbol without a space in between. You have learnt how to access structure data using normal variable in the previous session. So, now we will access structure data using pointer variable.

PROGRAM FOR C STRUCTURE USING POINTERS

EXAMPLE 1 :

In this program, s1 is the normal structure variable and ptr is a pointer structure variable. As you know, Dot(.) operator is used to access the data using normal structure variable and arrow(->) is used to access data using a pointer variable.

```c
#include <stdio.h>
#include <conio.h>
 void main()
{
 struct student
{
      int roll;
      char name[10];
      float marks;
};
   struct student s1 = {1, "amit", 70.5};
   struct student *ptr;
  /* Address of the structure variable s1 assigned to the pointer variable ptr */ comment
    ptr = &s1;

  /* Displaying the values of structure members using pointer variable*/ comment
   printf("\n  Roll is: %d ", ptr->roll);
   printf(" \n Name is: %s", ptr->name);
   printf("\n Marks is: %f ", ptr->,marks);
   getch();
}
```

EXAMPLE 2 :

```c
#include <stdio.h>
#include <conio.h>
 void main()
{
   struct student
{
       int roll;
       char name[10];
       float marks;
};
 struct student s1 , *ptr;
 ptr = &s1;

/* Taking input values from the user in the structure members */ comment
 printf("Enter  Roll:");
 scanf,"%d", &ptr->roll);
 printf("Enter  Name:");
 scanf,"%s", ptr->name);
 printf("Enter  marks:");
 scanf,"%f", &ptr->marks);

/* Displaying the values of structure members */ comment
 printf("\n  Roll is: %d ", ptr->roll);
 printf(" \n Name is: %s", ptr->name);
 printf("\n Marks is: %f ", ptr->marks);
 getch();
}
```