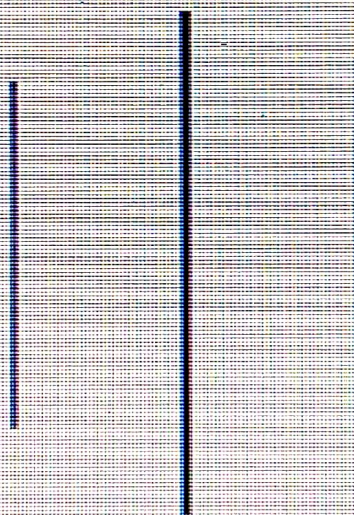


**INSTITUTE OF ENGINEERING
ADVANCED COLLEGE OF ENGINEERING
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KUPONDOLE, LATIPUR
(AFFILIATED TO TRIBHUVAN UNIVERSITY)**



LAB REPORT

LAB NO.: 9

SUBJECT: C PROGRAMMING

SUBMITTED BY:

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DATE: 2078**

SUBMITTED TO:

**DEPARTMENT OF
COMPUTER &
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```

1.
#include <stdio.h>
#include <string.h>
struct Company
{
    char Name[20];
    char Address[20];
    char Phone no.[20];
    int Num;
};

struct Company c;
void main()
{
    printf("Enter Name of company\n");
    fflush(stdin);
    gets(c.Name);
    printf("Enter Address of company\n");
    fflush(stdin);
    gets(c.Add);
    printf("Enter Phone No. of company\n");
    fflush(stdin);
    gets(c.Phone No.);
    printf("Enter total no. of Employee in company\n");
    scanf("%d",&c.num);
    printf("The info of the company is\n");
    printf("Name\tAddress\tPhone No.\tNumbers of employ");
    printf("%s\t%s\t%s\t%d", c.Name, c.Address,
        c.Phone No., c.Num);
    getch();
}

```

Out Put

Enter Name of Company

S.R. Traders.

Enter Address of Company

Dhangadhi

Enter- Phone No. of Company.

091-575164.

Enter total No. of Employee in company

8.

The info of Company is.

Name	Address	Phone No.	No. of Employee
S.R. Traders.	Dhangadhi	091-575164	8.

2.

```

#include <stdio.h>
#include <string.h>
struct Employee
{
    char Name[20];
    char add[20];
    char num[20];
};
struct Employee E[10], temp;
void main()
{
    int n, i, j;
    printf("Enter how many Employee: \n");
    scanf("%d", &n);
    printf("Enter info of %d Employee \n");
    for (i = 0; i < n; i++)
    {
        printf("Enter name of Employee: \n");
        fflush(stdin);
        gets(E[i].Name);
        printf("Enter address of Employee: \n");
        fflush(stdin);
        gets(E[i].Add);
        printf("Enter phone no. of Employee: \n");
        fflush(stdin);
        gets(E[i].num);
    }
    for (i = 0; i < n - 1; i++)
    {
        for (j = 0; j < n - i - 1; j++)
        {
            if (strcmp(E[j].Name, E[j+1].Name) > 0)
            {
                temp = E[j];
            }
        }
    }
}

```

```

        E[j] = E[j+1];
        E[j+1] = temp;
    }
}

printf("\n The information of Employee : \n");
printf("\n Name\t Address\t Phone No. \n");
printf(" - - - - - \n");
for (i=0, i<n; i++)
{
    printf("%s\t %s\t %s\n", E[i].Name, E[i].Add,
        E[i].num);
}
getch();
}

```

Out put.

Enter how many Employee

2

Enter info of 2 Employee.

Enter name of Employee

Rohit

Enter address of Employee

Dhangadhi

Enter phone no. of Employee

9876543210.

Enter name of Employee

Ramesh

Enter address of Employee

Butwal

Enter phone no. of Employee.

9888844422.

The information of Employee.

Name	Address	Phone No.
Rohit	Dhangadhi	9876543210
Ramesh	Butwal	9888844422.

3.

```
include <stdio.h>
include <string.h>
```

```
struct Employee
```

```
{
```

```
    char Name [20];
```

```
    char add [20];
```

```
    char Num [20];
```

```
};
```

```
void Read (struct Employ emp [20], int n)
```

```
{
```

```
    int i;
```

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

```
    {
```

```
        printf ("Enter name of Employee: \n");
```

```
        fflush (stdin);
```

```
        gets (emp [i]. Name);
```

```
        printf ("Enter address of Employee: \n");
```

```
        fflush (stdin);
```

```
        gets (emp [i]. add);
```

```
        printf ("Enter phone no. of Employee: \n");
```

```
        fflush (stdin);
```

```
        gets (emp [i]. num);
```

```
    }
```

```
}
```

```
void sort (struct Employee emp [20], int n)
```

```
{
```

```
    int i, j;
```

```
    struct Employee temp;
```

```
    for (i = 0; i < n-1; i++)
```

```
    {
```

```
        for (j = 0; j < n-1; j++)
```

```
        {
```

```
            if (strcmp (emp [i]. Name, emp [j+1]. Name) > 0)
```



```

    {
        temp = emp[j];
        emp[j] = emp[j+1];
        emp[j+1] = temp;
    }
}

```

```

void Display (struct Employee emp[20], int n)
{

```

```

    int i;
    printf ("In Name |t Address |t phone No. |n");
    printf (" - - - - - |n");
    for (i=0; i<n; i++)
    {
        printf ("%s |t %s |t %s |n", emp[i].Name, emp[i].
            add, emp[i].num);
    }
}

```

```

void main().
{

```

```

    struct Employee emp[20];
    int n;
    printf ("Enter how many employee : |n");
    scan ("%d", &n);
    printf ("Enter the info of %d Employee |n", n);
    Read (emp, n);
    printf ("In The information of a employee before sorting: |n");
    Display (emp, n);
    sort (emp, n);
    printf ("In The information of employee after sorting: |n");
    Display (emp, n);
    getch();
}

```

Output.

~~Enter~~ Enter how many Employee :
2.

Enter info of 2 Employee

Enter name of a Employee

Rohit shrestha.

Enter address of a Employee
Kathmandu.

Enter phone no. of a Employee
9810000062.

Enter name of a Employee

Ramesh Joshi

Enter address of a Employee
Maharajung.

Enter phone no. of a Employee
9810062662

~~The~~ The information of a Employee ~~off the~~ Before sorting

Name	Address	Phone No.
Rohit shrestha	Kathmandu	9810000062
Ramesh Joshi	Maharajung	9810062662.

The information of a Employee After sorting

Name	Address	Phone No.
Ramesh Joshi	Maharajung	9810062662
Rohit shrestha	Kathmandu	9810000062

4)

```

#include <stdio.h>
#include <conio.h>
typedef struct Complex
{
    int Real;
    int Img;
} Comp;

Comp Add (Comp C1, Comp C2)
{
    Comp sum;
    sum.Real = C1.Real + C2.Real;
    sum.Img = C1.Img + C2.Img;
    return (sum);
}

Comp Sub (Comp C1, Comp C2)
{
    Comp Difference;
    Difference.Real = C1.Real - C2.Real;
    Difference.Img = C1.Img - C2.Img;
    return (Difference);
}

void main()
{
    Comp C1, C2, sum, Difference;
    printf("Enter real & img imaginary part for 1st complex no.\n");
    scanf("%d %d", &C1.Real, &C1.Img);
    printf("Enter real & imaginary part for 2nd complex no.\n");
    scanf("%d %d", &C2.Real, &C2.Img);
    Difference = Sub (C1, C2);
    sum = Add (C1, C2);
    printf("Sum is %d + %d i\n", sum.Real, sum.Img);
}

```

```
printf("Difference is %d+ %d i", Difference.Real,  
      Difference.Imag);
```

```
getch();
```

3.

Output.

Enter real & imaginary part for 1st complex no.

1

1

Enter real & imaginary part for 2nd complex no.

1

1.

Sum is $2+2i$

Diff is $0+0i$

5)

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

```
{
    int hrs;
    int min;
    int sec;
}
```

};

```
struct time ct, pt, sum;
```

```
void main().
```

{

```
printf("Enter present time : hrs : min : sec\n");
```

```
scanf("%d %d %d", &ct.hrs, &ct.min, &ct.sec);
```

```
printf("Enter past time : hrs : min : sec\n");
```

```
scanf("%d %d %d", &pt.hrs, &pt.min, &pt.sec);
```

```
sum.sec = ct.sec + pt.sec;
```

```
sum.min = ct.min + pt.min;
```

```
sum.hrs = ct.hrs + pt.hrs;
```

```
if (sum.sec >= 60)
```

{

```
sum.sec = sum.sec - 60;
```

```
sum.min = sum.min + 1;
```

}

```
if (sum.min >= 60)
```

{

```
sum.min = sum.min - 60;
```

```
sum.hrs = sum.hrs + 1;
```

}

```
printf("\n Address betn two time is : \n %d hrs : %d min : %d sec\n", sum.hrs, sum.min, sum.sec);
```

```
getch();
```

};

Out put

Enter present time : hrs : min : sec

2

50

30

Enter post time : hrs : min : sec

4

30

30

Addition betw two time is;

7 hrs : 21 min : 0 sec.

#include <stdio.h>

#include <string.h>

struct time

{

int hrs;

int min;

int sec;

}

struct time ct, pt, diff;

void main()

{

printf("Enter present time : hrs : min : sec\n");

scanf("%d %d %d", &ct.hrs, &ct.min, &ct.sec);

printf("\n

scanf("\n

if (pt.sec > ct.sec)

{

ct.sec = ct.sec + 60;

ct.min = ct.min - 1;

}

diff.sec = ct.sec - pt.sec;

if (pt.min > ct.min)

{

ct.min = ct.min + 60;

ct.hrs = ct.hrs - 1;

}

diff.min = ct.min - pt.min;

if (pt.hrs > ct.hrs)

{

ct.hrs = ct.hrs + 24;

}

diff.hrs = ct.hrs - pt.hrs;

printf("\n Difference betⁿ present & Past time is : \n,
%d hrs : %d min : %d sec \n", diff.hrs, diff.min,
diff.sec);

getch());
}

Output

Enter present time : hrs : min : sec

4

30

30

Enter past time : hrs : min : sec

2

50

30

Difference betn present & past time is;
1 hrs ; 40 min : 0 sec.

Discussion & Conclusions.

With the help of theoretical knowledge about structure in C programming, I coded different type of program. I learned that structure is nothing but a group of variable of different data type & data type represented by the single name.

I concluded that structure is a user defined data of different type together. Structure help to construct a complex data type which more meaningful. In structure, data is stored in form of records.