

Assignment no.1

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CLASS: SE-II

BATCH : A

SUBJECT: Data Structures

PRN : B24CE1061

Title of of assignment

1)Rainfall Tracking:

Write a program to track rainfall data for 3 cities over 4 months. Using a 2D array, we can store the data, calculate the average rainfall for each city, and display the rainfall data in a tabular format.

PROGRAM

```
/*Rainfall Tracking:
Write a program to track rainfall data for 3 cities over 4 months.
* Using a 2D array, we can store the data, calculate the average rainfall
for each city,
* and display the rainfall data in a tabular format.
*/
#include<stdio.h>
int main()
{
    float rainfall[3][4];
    float total = 0.0;
    float average = 0.0;
    printf("\n Enter rainfall data for 3 cities");

    for(int c=0;c<3;c++)
    {
        printf("\n Enter data for each month");
        printf("\n For city %d:",c+1);
        for (int m=0;m<4;m++)
        {
            printf("\n month %d :",m+1);
            scanf("%f",&rainfall[c][m]);
        }
    }

    printf("\n Rainfall tracking:");
```

```

        printf("\n  Sr.No.\t City  Name\t Month1\t\t\t Month2\t\t\t\t
Month3\t\t\t\t Month 4\t Average Rainfall");

        printf("\n
-----");

        for(int c=0;c<3;c++)
        {
            printf("\n  %d",c+1);
            printf("\tcity  %d",c+1);
            for (int m=0;m<4;m++)
            {
                printf("\t\t%f:",rainfall[c][m]);
                total+= rainfall[c][m];

            }
            average = total/4;
            printf("\t%f",average);

        printf("\n
-----");

        }

        return 0;
}

```

OUTPUT

Enter rainfall data for 3 cities

Enter data for each month

For city 1:

month 1 :61

month 2 :45

month 3 :59

month 4 :87

Enter data for each month

For city 2:

month 1 :61

month 2 :54

month 3 :58

month 4 :23

Enter data for each month

For city 3:

month 1 :61

month 2 :34

month 3 :25

month 4 :56

Rainfall tracking:

Sr.No.	City Name	Month1	Month2	Month3	Month 4	Average Rainfall
1	city 1	61.0000	45.0000	59.0000	87.0000	63.0000
2	city 2	61.0000	54.0000	58.0000	23.0000	112.0000
3	city 3	61.0000	34.0000	25.0000	56.0000	156.0000

2)Temperature Tracker:

Write a program for tracking daily temperatures of 3 cities for a week . The program calculates the average temperature for each day and for the week.

PROGRAM

```
/*Temperature Tracker
Write a progra, for tracking daily temperature of 3 cities for a week.
The prgram calculates the average temperature for each day and foe the
week.*/
#include<stdio.h>
int main()
{
    int temp[3][7];
    int sumtemp = 0;
    int average = 0;
    printf("\n Enter temp data for 3 cities");

    for(int c=0;c<3;c++)
    {
        printf("\n Enter data for each day");
        printf("\n For city %d:",c+1);
        for (int d=0;d<7;d++)
        {
            printf("\n day %d :",d+1);
            scanf("%d",&temp[c][d]);
        }
    }
    printf("\n Temperature tracker:\n");
    printf("\n Sr.No.\t City Name\t Day1\t\t Day2\t\t Day3\t\t Day4\t\t
Day5\t\t Day6\t\t Day7\t\tTemperature tracker");
    printf("\n
-----
-----
-----");
    for(int c=0;c<3;c++)
    {
        printf("\n %d",c+1);
        printf("\tcity %d",c+1);
```

```

        for (int d=0;d<7;d++)
        {
            printf("\t\t%d",temp[c][d]);
            sumtemp+= temp[c][d];

        }
        average = sumtemp/7;
        printf("\t\t%d",average);
        printf("\n
-----"
-----"
-----");

    }
    return 0;

}

```

OUTPUT

Enter rainfall data for 3 cities

Enter data for each month

For city 1:

month 1 :61

month 2 :45

month 3 :59

month 4 :87

Enter data for each month

For city 2:

month 1 :61

month 2 :54

month 3 :58

month 4 :23

Enter data for each month

For city 3:

month 1 :61

month 2 :34

month 3 :25

month 4 :56

Rainfall tracking:

Sr.No.	City Name	Month1	Month2	Month3	Month 4
--------	-----------	--------	--------	--------	---------

Average Rainfall

1	city 1	61.000000:	45.000000:	59.000000:	87.000000:
63.000000					

2	city 2	61.000000:	54.000000:	58.000000:	23.000000:
112.000000					

3	city 3	61.000000:	34.000000:	25.000000:	56.000000:
156.000000					

Enter temp data for 3 cities

Enter data for each day

For city 1:

day 1 :61

day 2 :78

day 3 :94

day 4 :95

day 5 :67

day 6 :54

day 7 :61

Enter data for each day

For city 2:

day 1 :61

day 2 :35

day 3 :54

day 4 :59

day 5 :68

day 6 :24

day 7 :61

Enter data for each day

For city 3:

day 1 :61

day 2 :34

day 3 :57

day 4 :48

day 5 :64

day 6 :95

day 7 :61

Temperature tracker:

Sr.No.	City Name	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Temperature tracker
--------	-----------	------	------	------	------	------	------	------	---------------------

1	city 1	61	78	94	95	67	54	61	72
---	--------	----	----	----	----	----	----	----	----

2	city 2	61	35	54	59	68	24	61	124
---	--------	----	----	----	----	----	----	----	-----

3	city 3	61	34	57	48	64	95	61	184
---	--------	----	----	----	----	----	----	----	-----
