

# DS Assignment 1

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```
/* write a program to track rainfall for 3 cities over 4 months.  
* using a 2d array we can store the data , calculate the average rainfall for  
* each city , display the rainfall data in a tabular format.  
*/
```

```
#include<stdio.h>  
void main()  
{  
    float rainfall[3][4];  
    float total=0.0 ;  
    float avg = 0.0;  
  
    printf("\n Input rainfall data for 3 cities : ");  
    for (int c=0;c<3;c++)  
    {  
        printf("Enter the data for each month 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("\nSr no \t City name \t Month 1 \t Month 2 \t Month 3 \t Month 4 \t Average  
Rainfall");  
  
    printf("\n-----");  
    for(int c=0 ; c<3;c++)  
    {  
        printf("\n%d",c+1);  
        printf("\t city %d",c+1);  
        total = 0.0;  
  
        for(int m=0;m<4;m++)
```

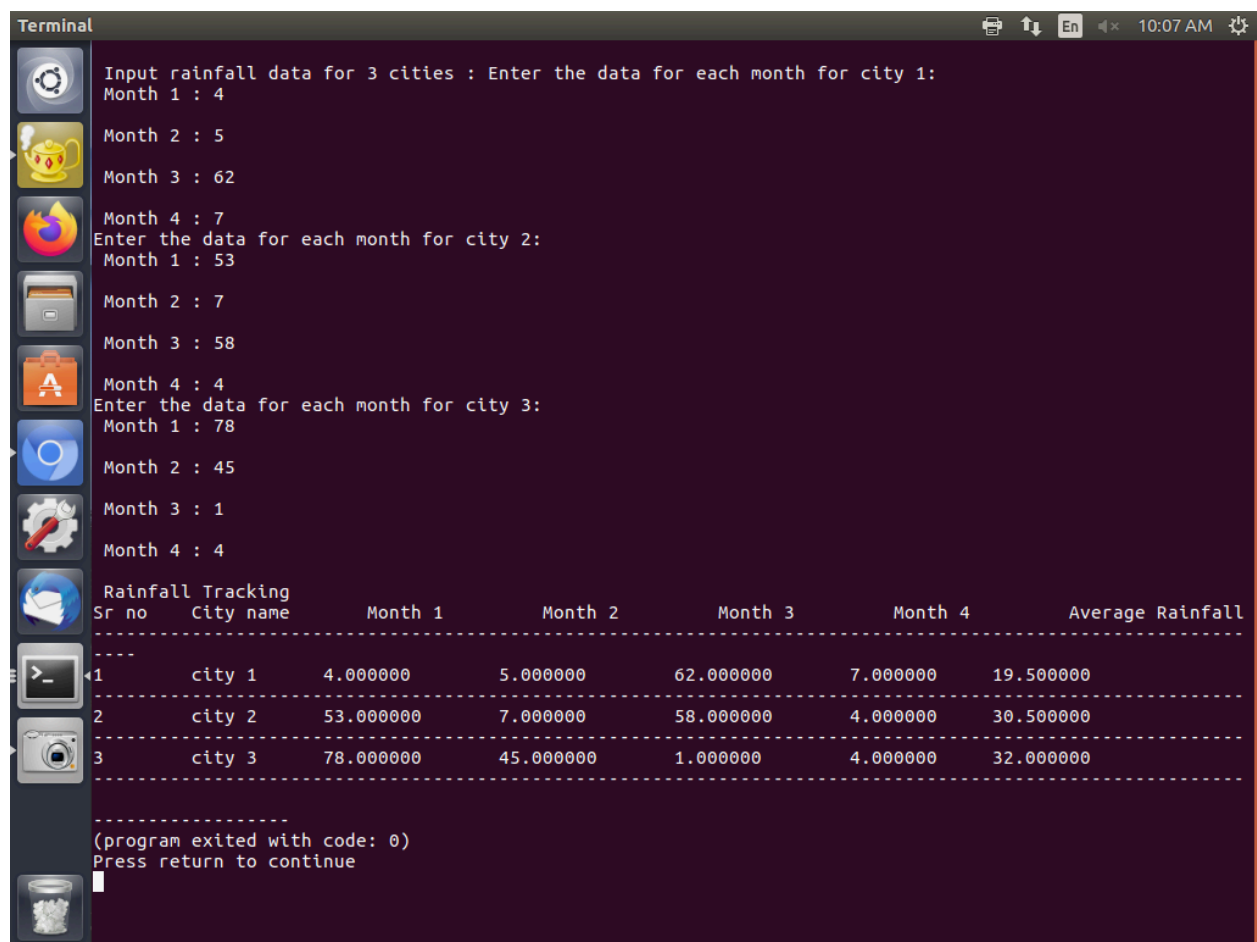
```

        {
            printf("\t\t%f",rainfall[c][m]);
            total += rainfall[c][m];
        }
        avg =total/4 ;
        printf("\t\t%f", avg);

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

}

```



The terminal window shows the execution of a C program for rainfall tracking. It prompts the user to enter data for three cities, each with four months of rainfall. The input values are: City 1 (4, 5, 62, 7), City 2 (53, 7, 58, 4), and City 3 (78, 45, 1, 4). The program then displays a table of the collected data and calculates the average rainfall for each city.

```

Terminal
Input rainfall data for 3 cities : Enter the data for each month for city 1:
Month 1 : 4
Month 2 : 5
Month 3 : 62
Month 4 : 7
Enter the data for each month for city 2:
Month 1 : 53
Month 2 : 7
Month 3 : 58
Month 4 : 4
Enter the data for each month for city 3:
Month 1 : 78
Month 2 : 45
Month 3 : 1
Month 4 : 4

Rainfall Tracking
Sr no   City name   Month 1   Month 2   Month 3   Month 4   Average Rainfall
-----
1      city 1      4.000000  5.000000  62.000000  7.000000  19.500000
2      city 2      53.000000  7.000000  58.000000  4.000000  30.500000
3      city 3      78.000000  45.000000  1.000000   4.000000  32.000000
-----

(program exited with code: 0)
Press return to continue

```

### **/\*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.

\*/

```
#include <iostream>
using namespace std;
int main() {
float arr[3][7];
for(int i=0;i<3;i++){
cout<<"city"<<i+1<<"\n";
for(int j=0;j<7;j++){
cout<<"enter temp "<<j+1<<":";
cin>>arr[i][j];
}
cout<<"\n";
}
cout<<"Temperature Tracker B24CE1063 \n";
cout<<"cities day1 day2 day3 day4 day5 day6 day7 average \n";
for(int i=0;i<3;i++){
cout<<"-----\n";
cout<<"city"<<i+1;
float avg =0;
for(int j=0;j<7;j++){
cout<<" "<<arr[i][j];
avg+=arr[i][j];
}
cout<<" "<<avg/7;
cout<<"\n";
}
return 0;
}
```

Output:-

```
city1
enter temp 1:12
enter temp 2:13
enter temp 3:14
enter temp 4:15
enter temp 5:16
enter temp 6:17
enter temp 7:18

city2
enter temp 1:13
enter temp 2:15
enter temp 3:17
enter temp 4:19
enter temp 5:20
enter temp 6:21
enter temp 7:23

city3
enter temp 1:24
enter temp 2:27
enter temp 3:28
enter temp 4:26
enter temp 5:25
enter temp 6:26
enter temp 7:23

Temperature Tracker B24CE1063
cities      day1      day2      day3      day4      day5      day6      day7      average
-----
city1       12        13        14        15        16        17        18        15
-----
city2       13        15        17        19        20        21        23        18.2857
-----
city3       24        27        28        26        25        26        23        25.5714
```