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PRN - B24CE1079
Class - SE 2 Batch - A
Subject - Data Structures
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.
*/


#include<stdio.h>
int main()
{
float rainfall[3][4];
float total = 0.0;
float average = 0.0;
printf("\nEnter data for 3 cities\n");

for(int c=0;c<3;c++)
{
printf("\nEnter data for each month");
printf("\n for city %d:",c+1);
for (int m=0;m<4;m++)
{
printf("\n for month %d:",m+1);
scanf("%f",&rainfall[c][m]);
}
}
printf("Rainfall Tracker\n");
printf("\n S.No.\t  CityName\t      Month 1\t      Month 2\t      Month 3\t      Month 4\t
AverageRainfall\t ");
printf("\n----------------------------------------------------------------------------------------------------
------");
for(int c=0;c<3;c++)
{
printf("\n %d",c+1);
printf("\t city %d",c+1);
```

```
for (int m=0;m<4;m++)
{
printf("\t %f:",rainfall[c][m]);
total+=rainfall[c][m];
}
   average = total/4;
   printf("%f",average);

printf("\n----------------------------------------------------------------------------------------------------
-------");
}
    return 0;
}
```

Output

```
Enter data for 3 cities

Enter data for each month
 for city 1:
 for month 1:79

 for month 2:60

 for month 3:65

 for month 4:72

Enter data for each month
 for city 2:
 for month 1:79

 for month 2:40

 for month 3:54

 for month 4:43

Enter data for each month
```

for city 3:
for month 1:79

for month 2:80

for month 3:56

for month 4:84
Rainfall Tracker

S.No. CityName Month 1 Month 2 Month 3 Month 4 AverageRainfall

---

1 city 1 79.000000: 60.000000: 65.000000: 72.000000:69.000000

---

2 city 2 79.000000: 40.000000: 54.000000: 43.000000:123.000000

---

3 city 3 79.000000: 80.000000: 56.000000: 84.000000:197.750000

---

*Temperature Tracker
Write a program for tracking daily temperature of 3 cities for a week.
The program calculates the average temperature for each day and for 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 temp data for 3 cities
Enter data for each day
For city 1:
day 1 :20

day 2 :19

day 3 :23

day 4 :34

day 5 :22

day 6 :21

day 7 :18

Enter data for each day
For city 2:
day 1 :24

day 2 :25

day 3 :27

day 4 :29

day 5 :21

day 6 :30

day 7 :23
```

```
Enter data for each day
For city 3:
day 1 :28

day 2 :29

day 3 :35

day 4 :30

day 5 :32

day 6 :33

day 7 :31

Temperature tracker:

Sr.No.  City Name       Day1            Day2            Day3            Day4            Day5            Day6            Day7            Temperature tracker
-------------------------------------------------------------------------------------------------------------------------------------------------------------
1       city 1          20              19              23              34              22              21              18              22
-------------------------------------------------------------------------------------------------------------------------------------------------------------
2       city 2          24              25              27              29              21              30              23              48
-------------------------------------------------------------------------------------------------------------------------------------------------------------
3       city 3          28              29              35              30              32              33              31              79
-------------------------------------------------------------------------------------------------------------------------------------------------------------


------------------
```