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PRN - B24CE1079
Class - SE 2 Batch - A
Subject - Data Structures

/*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

```c
#include <stdio.h>
int main()
{
    float temp[3][7];
    int i, j;

    printf("Enter the temperatures for 3 cities over 7 days:\n");
    for (i = 0; i < 3; i++)
    {
        printf("City %d:\n", i + 1);
        for (j = 0; j < 7; j++)
        {
            printf("  Day %d: ", j + 1);
            scanf("%f", &temp[i][j]);
        }
    }

    printf("\nAverage Temperature(in degree celsius) for Each Day:\n");
    for (j = 0; j < 7; j++) {
        float daySum = 0;
        for (i = 0; i < 3; i++) {
            daySum += temp[i][j];
        }
        float dayAverage = daySum / 3;
        printf("Day %d: %.2f\n", j + 1, dayAverage);
    }

    printf("\nAverage Temperature (in degree celsius) for Each City (Weekly):\n");
    for (i = 0; i < 3; i++) {
        float citySum = 0;
        for (j = 0; j < 7; j++) {
            citySum += temp[i][j];
        }
        float cityAverage = citySum / 7;
        printf("City %d: %.2f\n", i + 1, cityAverage);
    }

    return 0;
}
```

Output

```
Enter the temperatures for 3 cities over 7 days:
City 1:
  Day 1: 23
  Day 2: 35
  Day 3: 27
  Day 4: 30
  Day 5: 31
  Day 6: 24
  Day 7: 22
City 2:
  Day 1: 26
  Day 2: 28
  Day 3: 32
  Day 4: 33
  Day 5: 35
  Day 6: 27
  Day 7: 20
City 3:
  Day 1: 19
  Day 2: 24
  Day 3: 25
  Day 4: 27
  Day 5: 28
  Day 6: 34
  Day 7: 29

Average Temperature(in degree celsius) for Each Day:
Day 1: 22.67
Day 2: 29.00
Day 3: 28.00
Day 4: 30.00
Day 5: 31.33
Day 6: 28.33
Day 7: 23.67
Average Temperature (in degree celsius) for Each City (Weekly):
City 1: 27.43
City 2: 28.71
City 3: 26.57
```