Activity 1

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.

Code:

```
#include <iostream>
using namespace std;


int main(){

  int cities = 3;
  int months = 4;
  float avg[cities] = {0};

  char cityname[cities][30];
  float rainfall[cities][months];

  cout<<"Enter name of "<<cities<<" cities: "<<endl;
  for(int i = 0; i < cities; i++){
    cout<<"city "<<i+1<<": ";
    cin>>cityname[i];
  }

  cout<<endl<<"Enter rainfall data each city for month: "<<endl;
  for(int i=0; i<cities; i++){
    cout<<"For "<<cityname[i]<<": "<<endl;
    for(int j=0; j<months; j++){
      cout<<"Month "<<j+1<<" : ";
      cin>>rainfall[i][j];
      avg[i] += rainfall[i][j];
    }
    avg[i] /= months;

  }
```

```
  cout<<"City\t\t";
  for(int i=0; i<months; i++){
    cout<<"Month "<<i+1<<"\t";
  }
  cout<<"Average"<<endl;
  cout<<"-----------------------------------------\n";

  for(int i=0; i<cities; i++){
    cout<<cityname[i]<<"\t\t";
    for(int j=0; j<months; j++){
      cout<<rainfall[i][j]<<"\t";
    }
    cout<<avg[i]<<endl;
  }

  return 0;
}
```

Output:

```
Enter name of 3 cities:
city 1: Pune
city 2: Mumbai
city 3: Delhi

Enter rainfall data each city for month:
For Pune:
Month 1 : 3.5
Month 2 : 3.4
Month 3 : 3.3
Month 4 : 3.2
For Mumbai:
Month 1 : 4.1
Month 2 : 4.2
Month 3 : 3.8
Month 4 : 3.7
For Delhi:
Month 1 : 4.7
Month 2 : 4.6
Month 3 : 4.2
Month 4 : 3.9
City            Month 1 Month 2 Month 3 Month 4 Average
-----------------------------------------
Pune            3.5     3.4     3.3     3.2     3.35
Mumbai          4.1     4.2     3.8     3.7     3.95
Delhi           4.7     4.6     4.2     3.9     4.35
```