

Question:1

```
#include<iostream>
using namespace std;
class course
{
private:
    string courseName;
    string* students;
    int numberOfStudents;
    int capacity;
public:
    course(const string& courseName, int capacity);
    ~course();
    string getcourseName() const;
    void addStudent(const string& name);
    void dropStudent(const string& name);
    string* getStudents() const;
    int getNumberOfStudents() const;
};

course::course(const string& courseName, int capacity)
{
    numberOfStudents = 0;
    this->courseName = courseName;
    this->capacity = capacity;
    students = new string[capacity];
}

course::~~course() { delete[] students; }
string course::getcourseName() const { return courseName; }
void course::addStudent(const string& name)
{
    students[numberOfStudents] = name;
    numberOfStudents++;
}

void course::dropStudent(const string& name)
{
    for (int i = 0; i < numberOfStudents; i++)
    {
        if (students[i] == name)
        {
            for (int j = i; j < numberOfStudents - 1; j++)
            {
                students[j] = students[j + 1];
            }
            numberOfStudents--;
            return;
        }
    }
}

string* course::getStudents() const
{
    return students;
}

int course::getNumberOfStudents() const
{
    return numberOfStudents;
}
```

```

}
int main()
{
    course c1("data structure", 15);
    course c2("database system", 20);
    c1.addStudent("Basit");
    c1.addStudent("Shahbaz");
    c1.addStudent("Haider");
    c2.addStudent("Hamza");
    c2.addStudent("Shamir");
    c1.dropStudent("Mahad");
    cout << "number of students in course 1: " << c1.getNumberOfStudents() << endl;
    string* students1 = c1.getStudents();
    for (int i = 0; i < c1.getNumberOfStudents(); i++)
    {
        cout << students1[i] << ", ";
    }
    cout << "number of students in course 2: " << c2.getNumberOfStudents() << endl;
    string* students2 = c2.getStudents();
    for (int i = 0; i < c2.getNumberOfStudents(); i++)
    {
        cout << students2[i] << ", ";
    }
    return 0;
}

```