Task\_1:

#include <iostream>

using namespace std;

class waterBottle

{

private:

    string company;

    string color;

    double capacityInLitre;

    double capacityInMilliLitre;

public:

    void setCompany(string company)

    {

        this->company = company;

    }

    string getCompany()

    {

        return company;

    }

    void setColor(string color)

    {

        this->color = color;

    }

    string getColor()

    {

        return color;

    }

    void setCapacity(double capacityInMilliLitre)

    {

        this->capacityInMilliLitre = capacityInMilliLitre;

        capacityInLitre = capacityInMilliLitre / 1000;

    }

    double getCapacityInLitre()

    {

        return capacityInLitre;

    }

    double getCapacityInMilliLitre()

    {

        return capacityInMilliLitre;

    }

    void updateCapacity(double capacity)

    {

        capacityInMilliLitre -= capacity;

        capacityInLitre = capacityInMilliLitre / 1000;

    }

};

int main()

{

    waterBottle abc;

    string company, color;

    double capacity;

    cout << "Enter company of water bottle: ";

    cin >> company;

    cin.ignore();

    abc.setCompany(company);

    cout << "Enter color of water bottle: ";

    cin >> color;

    cin.ignore();

    abc.setColor(color);

    cout << "Enter initial capacity of water bottle: ";

    cin >> capacity;

    cin.ignore();

    abc.setCapacity(capacity);

    cout << "\n\tInitial capacity in millilitres: " << abc.getCapacityInMilliLitre();

    cout << "\n\tInitial capacity in Litres: " << abc.getCapacityInLitre();

    cout << "\n\nHow much water have you drunk?";

    cin >> capacity;

    abc.updateCapacity(capacity);

    cout << "\n\tUpdated capacity in millilitres: " << abc.getCapacityInMilliLitre();

    cout << "\n\tUpdated capacity in Litres: " << abc.getCapacityInLitre();

    return 0;

}

Task\_2:

#include <iostream>

using namespace std;

class student

{

private:

    int stId;

    int stAge;

    string stName;

    char grade;

public:

    int getStId()

    {

        return stId;

    }

    int getStAge()

    {

        return stAge;

    }

    string getStName()

    {

        return stName;

    }

    char getGrade()

    {

        return grade;

    }

    void setStId(int stId)

    {

        this->stId = stId;

    }

    void setStAge(int stAge)

    {

        this->stAge = stAge;

    }

    void setStName(string stName)

    {

        this->stName = stName;

    }

    void setGrade(char grade)

    {

        this->grade = grade;

    }

    void displayStudents()

    {

        cout << "\nName of student : " << stName << endl;

        cout << "Student ID: " << stId << endl;

        cout << "Student Age: " << stAge << endl;

        cout << "Grade: " << grade << endl;

    }

};

class teacher

{

private:

    int tId;

    string tName;

    string subject;

public:

    int getTId()

    {

        return tId;

    }

    string getTName()

    {

        return tName;

    }

    string getSubject()

    {

        return subject;

    }

    void setTId(int tId)

    {

        this->tId = tId;

    }

    void setTName(string tName)

    {

        this->tName = tName;

    }

    void setSubject(string subject)

    {

        this->subject = subject;

    }

    void displayTeachers()

    {

        cout << "\nTeacher Name: " << tName << endl;

        cout << "Teacher Id: " << tId << endl;

        cout << "Subject Taught: " << subject << endl;

    }

};

class course

{

private:

    string courseCode;

    string courseName;

public:

    void setCourseCode(string courseCode)

    {

        this->courseCode = courseCode;

    }

    void setCourseName(string courseName)

    {

        this->courseName = courseName;

    }

    string getCourseName()

    {

        return courseName;

    }

    string getCourseCode()

    {

        return courseCode;

    }

    void displayCourses()

    {

        cout << "\nCourse Name: " << courseName << endl;

        cout << "Course Code: " << courseCode << endl;

    }

};

class schoolManagement

{

public:

    void displayAllStudents(student students[], int n)

    {

        int i;

        cout << "\nStudents: \n\n"

             << endl;

        for (i = 0; i < n; i++)

        {

            students[i].displayStudents();

            cout << "\n\n";

        }

    }

    void displayAllTeachers(teacher teachers[], int n)

    {

        int j;

        cout << "\nTeachers: \n"

             << endl;

        for (j = 0; j < n; j++)

        {

            teachers[j].displayTeachers();

            cout << "\n\n";

        }

    }

    void displayAllCourses(course courses[], int n)

    {

        int i;

        cout << "Courses: \n"

             << endl;

        for (i = 0; i < n; i++)

        {

            courses[i].displayCourses();

            cout << "\n\n";

        }

    }

    void addStudent(student students[], int &n)

    {

        n++;

        int id, age;

        string name;

        char grade;

        cout << "Enter ID of the student:\n " << endl;

        cin >> id;

        cout << "Enter First Name only of the student:\n " << endl;

        cin >> name;

        cout << "Enter Age of the student:\n " << endl;

        cin >> age;

        cout << "Enter Grade of the student:\n " << endl;

        cin >> grade;

        students[n-1].setStId(id);

        students[n-1].setStName(name);

        students[n-1].setStAge(age);

        students[n-1].setGrade(grade);

    }

    void addTeacher(teacher teachers[], int &n)

    {

        n++;

        int id;

        string name, subj;

        cout << "Enter ID: ";

        cin >> id;

        cout << "Enter Name: ";

        cin >> name;

        cout << "Enter Subject: ";

        cin >> subj;

        teachers[n-1].setTId(id);

        teachers[n-1].setTName(name);

        teachers[n-1].setSubject(subj);

    }

    void addCourse(course courses[], int &n)

    {

        n++;

        string courseCode, courseName;

        cin.ignore();

        cout << "Enter Course code: ";

        cin >> courseCode;

        cin.ignore();

        cout << "Enter Course name: ";

        cin >> courseName;

        courses[n-1].setCourseCode(courseCode);

        courses[n-1].setCourseName(courseName);

    }

};

int main()

{

    int choice;

    int s = 0;

    int t = 0;

    int c = 0;

    schoolManagement fastSchool;

    student students[100];

    teacher teachers[100];

    course courses[100];

    cout << "\n1. Add a student\n2. Add a teacher\n3. Add a course\n4. Display all students\n5. Display all teachers\n6. Display all courses\nand 7. to exit" << endl;

    cin >> choice;

    while (choice != 7)

    {

        switch (choice)

        {

        case 1:

        {

            fastSchool.addStudent(students, s);

            break;

        }

        case 2:

        {

            fastSchool.addTeacher(teachers, t);

            break;

        }

        case 3:

        {

            fastSchool.addCourse(courses, c);

            break;

        }

        case 4:

        {

            fastSchool.displayAllStudents(students, s);

            break;

        }

        case 5:

        {

            fastSchool.displayAllTeachers(teachers, t);

            break;

        }

        case 6:

        {

            fastSchool.displayAllCourses(courses, c);

            break;

        }

        }

        cout << "\n1. Add a student\n2. Add a teacher\n3. Add a course\n4. Display all students\n5. Display all teachers\n6. Display all courses\nand 7. to exit" << endl;

        cin >> choice;

    }

    return 0;

}

Task\_5:

#include <iostream>

using namespace std;

class Temperature

{

private:

    double celsius;

public:

    void setCelsius(double celsius)

    {

        this->celsius = celsius;

    }

    double getCelsius()

    {

        return celsius;

    }

    double celsiusToFahrenheit()

    {

        return (celsius \* 9 / 5 + 32);

    }

};

int main()

{

    Temperature tmp;

    double temp;

    cout << "Enter temp in celsius: ";

    cin >> temp;

    tmp.setCelsius(temp);

    cout << "\nTemp in celsius: " << tmp.getCelsius() << endl;

    cout << "\nTemp in Farenheit: " << tmp.celsiusToFahrenheit() << endl;

    return 0;

}