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**Assignment:** PF Lab 11

**Sec:** H

# Task 1.

## Input

```
#include <iostream>
using namespace std;
struct student
{
    int ID[5];
    string name[5], department[5], email[5], number[5];
};

int main ()
{
    student details;
    cout<<"You have to enter record of 5 students.\n\n";

    for(int i=0; i<5; i++)
    {
        cout<<"Enter ID of Student "<<i+1<<" : ";
        cin>>details.ID[i];

        cin.ignore();
        cout<<"Enter Name of Student "<<i+1<<" : ";
        getline(cin,details.name[i]);
        cout<<"Enter Department of Student "<<i+1<<" : ";
        getline(cin,details.department[i]);
        cout<<"Enter Email of Student "<<i+1<<" : ";
        cin>>details.email[i];
        cout<<"Enter Phone number of Student "<<i+1<<" : ";
        cin>>details.number[i];
        cout<<endl;
    }
}
```

```
}

cout<<endl;
for(int i=0; i<5; i++)
{
    cout<<"\nStudent "<<i+1<<" details ";
    cout<<"\nID: "<<details.ID[i];
    cout<<"\nName: "<<details.name[i];
    cout<<"\nDepartment: "<<details.department[i];
    cout<<"\nEmail: "<<details.email[i];
    cout<<"\nPhone number: "<<details.number[i];
    cout<<endl;
}

return 0;
}
```

# OUTPUT

E:\LAB tasks Pf\Lab 11\Task 1 struct.exe

You have to enter record of 5 students.

```
Enter ID of Student 1 : 1001
Enter Name of Student 1 : Mushtaque Ali
Enter Department of Student 1 : CS
Enter Email of Student 1 : mushtaque@gmail.com
Enter Phone number of Student 1 : 03233079098
```

```
Enter ID of Student 2 : 1002
Enter Name of Student 2 : Ashfaque Ahmed
Enter Department of Student 2 : Botany
Enter Email of Student 2 : ashfaque@gmail.com
Enter Phone number of Student 2 : 03021542143
```

```
Enter ID of Student 3 : 1003
Enter Name of Student 3 : Asfaque
Enter Department of Student 3 : BBA
Enter Email of Student 3 : asfaque@gmail.com
Enter Phone number of Student 3 : 03053192989
```

```
Enter ID of Student 4 : 1004
Enter Name of Student 4 : Rzaque
Enter Department of Student 4 : English
Enter Email of Student 4 : razaque@gmail.com
Enter Phone number of Student 4 : 03073145417
```

```
Enter ID of Student 5 : 1005
Enter Name of Student 5 : Majid Ali
Enter Department of Student 5 : Law
Enter Email of Student 5 : majid@gmail.com
Enter Phone number of Student 5 : 03012345678
```

```
Student 1 details
ID: 1001
Name: Mushtaque Ali
Department: CS
Email: mushtaque@gmail.com
Phone number: 03233079098

Student 2 details
ID: 1002
Name: Ashfaque Ahmed
Department: Botany
Email: ashfaque@gmail.com
Phone number: 03021542143

Student 3 details
ID: 1003
Name: Asfaque
Department: BBA
Email: asfaque@gmail.com
Phone number: 03053192989

Student 4 details
ID: 1004
Name: Rzaque
Department: English
Email: razaque@gmail.com
Phone number: 03073145417

Student 5 details
ID: 1005
Name: Majid Ali
Department: Law
Email: majid@gmail.com
Phone number: 03012345678

-----
Process exited after 193.2 seconds with return value 0
Press any key to continue . . .
```

# **TASK 2 .**

## **Input**

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

struct Product
{
    int model_num;
    int price;
    string name;
};

void Products(Product details[10])
{
    for (int i=0; i<10; i++)
    {
        cout<<"\nProduct "<<i+1<<" : "<<details[i].name;
        cout<<"\nModel number : "<<details[i].model_num;
        cout<<"\nPrice : " <<details[i].price;
        cout<<endl;
    }
}

int main()
{
    Product details[10];
    cout<<"You have to enter records of 10 products.\n\n";
    for (int i=0; i<10; i++)
    {
```

```
cout<<"Enter name of product "<<i+1<<" : ";
cin.ignore();
getline(cin,details[i].name);
cout<<"Enter model number of "<<details[i].name <<" : ";
cin>>details[i].model_num;
cout<<"Enter Price of " <<details[i].name<<" : ";
cin>>details[i].price;
cout<<endl;
}

cout<<endl;
Products(details);

return 0;
}
```

# OUTPUT

---

```
E:\LAB tasks Pf\Lab 11\Task 2.exe
You have to enter records of 10 products.

Enter name of product 1 : Bat
Enter model number of at : 786
Enter Price of at : 5000

Enter name of product 2 : Ball
Enter model number of Ball : 787
Enter Price of Ball : 500

Enter name of product 3 : Wickets
Enter model number of Wickets : 788
Enter Price of Wickets : 1000

Enter name of product 4 : Gloves
Enter model number of Gloves : 789
Enter Price of Gloves : 800

Enter name of product 5 : T shirt
Enter model number of T shirt : 790
Enter Price of T shirt : 1200

Enter name of product 6 : Trouser
Enter model number of Trouser : 791
Enter Price of Trouser : 1400

Enter name of product 7 : Shoes
Enter model number of Shoes : 792
Enter Price of Shoes : 2000
```

E:\LAB tasks Pf\Lab 11\Task 2.exe

```
Enter name of product 8 : Socks
Enter model number of Socks : 793
Enter Price of Socks : 300

Enter name of product 9 : Cap
Enter model number of Cap : 794
Enter Price of Cap : 600

Enter name of product 10 : Glasses
Enter model number of Glasses : 795
Enter Price of Glasses : 1300
```

Product 1 : at  
Model number : 786  
Price : 5000

Product 2 : Ball  
Model number : 787  
Price : 500

Product 3 : Wickets  
Model number : 788  
Price : 1000

Product 4 : Gloves  
Model number : 789  
Price : 800

E:\LAB tasks Pf\Lab 11\Task 2.exe

Product 5 : T shirt  
Model number : 790  
Price : 1200

Product 6 : Trouser  
Model number : 791  
Price : 1400

Product 7 : Shoes  
Model number : 792  
Price : 2000

Product 8 : Socks  
Model number : 793  
Price : 300

Product 9 : Cap  
Model number : 794  
Price : 600

Product 10 : Glasses  
Model number : 795  
Price : 1300

-----  
Process exited after 150.5 seconds with return value 0  
Press any key to continue . . .

# **TASK 3.**

## **INPUT**

---

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

struct Employee
{
    int EmployeeNumber;
    double BasicSalary, HouseAllowance, MedicalAllowance, Tax, GrossPay,
NetSalary;
    string Name;
};

void EmpSalary(Employee &data)
{
    data.HouseAllowance = 10 * data.BasicSalary/100;
    data.MedicalAllowance = 5 * data.BasicSalary/100;
    data.Tax = 4 * data.BasicSalary/100;
    data.GrossPay=
data.BasicSalary+data.HouseAllowance+data.MedicalAllowance;
    data.NetSalary = data.GrossPay - data.Tax;
}

void display(Employee &data)
{
    cout <<
"*****" << endl;
    cout << "\t\tEmployee Details:" << endl;
```

```

    cout << "*****";
    cout << endl;

    cout << "Name: " << data.Name << endl;
    cout << "Employee Number: " << data.EmployeeNumber << endl;
    cout << "Basic Salary: " << data.BasicSalary << endl;
    cout << "House Allowance: " << data.HouseAllowance << endl;
    cout << "Medical Allowance: " << data.MedicalAllowance << endl;
    cout << "Tax: " << data.Tax << endl;
    cout << "Gross Pay: " << data.GrossPay << endl;
    cout << "Net Salary: " << data.NetSalary << endl;
}

int main()
{
    Employee data;

    cout<<"Enter Employee number : ";
    cin>>data.EmployeeNumber;
    cin.ignore();
    cout<<"Enter name of Employee : ";
    getline(cin,data.Name);
    cout<<"Enter Basic Salary : ";
    cin>>data.BasicSalary;
    cout<<endl;

    EmpSalary(data);
    display(data);

    return 0;
}

```

# OUTPUT

```
E:\LAB tasks Pf\Lab 11\Task3.exe
Enter Employee number : 1001
Enter name of Employee : Asif
Enter Basic Salary : 30000

*****
Employee Details:
*****
Name: Asif
Employee Number: 1001
Basic Salary: 30000
House Allowance: 3000
Medical Allowance: 1500
Tax: 1200
Gross Pay: 34500
Net Salary: 33300

-----
Process exited after 19.69 seconds with return value 0
Press any key to continue . . .
```

# **TASK 4 .**

## **INPUT**

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

struct Student {
    string name;
    int id;
    int mark[3];
};

void inputStudent(Student* ptr)
{
    cout<<"Enter student name: ";
    cin.ignore();
    getline(cin, ptr->name);

    cout<<"Enter student ID: ";
    cin>>ptr->id;

    cout<<"Enter marks for three subjects:" << endl;
    for (int i=0;i<3; i++)
    {
        cout<<"Mark for subject "<<i+1<<": ";
        cin>>ptr->mark[i];
    }
}
```

```
void displayStudent( Student* ptr)
{
    cout<<"Student Details:"<<endl;
    cout<<"Name: " << ptr->name<<endl;
    cout<<"ID: " << ptr->id<<endl;
    cout<<"Marks for three subjects: ";
    for (int i=0; i<3; i++)
    {
        cout<<ptr->mark[i]<<" ";
    }
    cout<<endl;
}

int main()
{
    Student stu;
    Student* stuPtr = &stu;

    inputStudent(stuPtr);
    displayStudent(stuPtr);

    return 0;
}
```

# OUTPUT

```
E:\LAB tasks Pf\LAB 11\Task 4.exe
Enter student name: Mushtaque Ali
Enter student ID: 12
Enter marks for three subjects:
Mark for subject 1: 45
Mark for subject 2: 78
Mark for subject 3: 99
Student Details:
Name: ushtaque Ali
ID: 12
Marks for three subjects: 45 78 99

-----
Process exited after 19.78 seconds with return value 0
Press any key to continue . . .
```

# **TASK 5.**

## **INPUT**

---

```
#include <iostream>
#include <string>
using namespace std;
struct student
{
    int id;
    string name;
    int*marks;
};

void inputStudent(student*ptr, int marks)
{
    cout<<"Enter ID of Student : ";
    cin>>ptr->id;

    cin.ignore();
    cout << "Enter student name: ";
    getline(cin,ptr->name);

    ptr->marks= new int[marks];
    cout<<"Enter marks of "<<marks<<" subjects : \n";

    for(int i=0; i<marks; i++)
    {
        cout<<"Marks for
subject "<<i+1<<" : ";
    }
}
```

```

        cin>>ptr->marks[i];

    }

    cout<<endl;

}

void display(student*ptr, int marks)
{
    cout<<"Student ID : "<<ptr->id;
    cout<<"\nStudent name : "<<ptr->name;
    cout<<"\nMarks of "<<marks<<" subjects : \n";

    for(int i=0; i<marks; i++)
    {
        cout<<"\nMarks for
subject "<<i+1<<" : "<<ptr->marks[i];
    }

    cout<<endl;
}

void deletemory(student*ptr)
{
    delete[] ptr->marks;
}

int main ()
{
    int marks;
    cout<<"Enter number of subject marks : ";
    cin>>marks;

    student stu;

```

```
student*ptr=&stu;

inputStudent(ptr, marks);
display(ptr,marks);
deletemory(ptr);

return 0;
}
```

# OUTPUT

---

```
E:\LAB tasks Pf\Lab 11\Task 5.exe
Enter number of subject marks : 5
Enter ID of Student : 12
Enter student name: Mushtaque Ali
Enter marks of 5 subjects :
Marks for subject 1 : 78
Marks for subject 2 : 89
Marks for subject 3 : 78
Marks for subject 4 : 90
Marks for subject 5 : 89

Student ID : 12
Student name : Mushtaque Ali
Marks of 5 subjects :

Marks for subject 1 : 78
Marks for subject 2 : 89
Marks for subject 3 : 78
Marks for subject 4 : 90
Marks for subject 5 : 89

-----
Process exited after 20.83 seconds with return value 0
Press any key to continue . . .
```

**The End**