EEN 103 Tutorial 7

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Q1

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

int main()
{
    //creating array
    int *marksArray=new int[4];;
    //entering values
    for(int i=0;i<4;i++)
    {
        int n;
        cout<<"Enter marks: "<<endl;
        cin>>n;
        *(marksArray+i)=n;
        cout<<endl;
    }
    //displaying elements
     for(int i=0;i<4;i++)
    {
        int n=*(marksArray+i);
        cout<<n<<" ";
        cout<<endl;
    }
    //second Array
    int  *marksArrayA=new int[8];
    //tranferring marks of first array
     for(int i=0;i<4;i++)
    {
        int n=marksArray[i];
        marksArrayA[i]=n;
    }
    //deleting first array
    delete [] marksArray;
    //second array elements
    for(int i=4;i<8;i++)
    {
        int n;
        cout<<"Enter marks: "<<endl;
        cin>>n;
        *(marksArrayA+i)=n;
        cout<<endl;
    }
    //displaying elements of second array
      for(int i=0;i<8;i++)
```

```
    {
        int n=*(marksArrayA+i);
       cout<<n<<" ";
       cout<<endl;
    }
     //deleting second array
    delete [] marksArrayA;
    //Deleting is neccesary as it leads to memory leak and it may cause memory
shortage
    return 0;
}
```

OUTPUT-

```
.\Q1 }
Enter marks:
1

Enter marks:
2

Enter marks:
3

Enter marks:
4

1
2
3
4
Enter marks:
5

Enter marks:
6

Enter marks:
7

Enter marks:
8

1
2
3
4
5
6
7
8
PS C:\Users\HP\OneDrive\Desktop\C++\Assignment 7>
```

Q2

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

 struct date
 {
    int date;
    int month;
    int year;

};
 struct students
 {
        string name;
        int enrolno;
        date joindate;
};
 struct faculty
 {
        string name;
        int enrolno;
        date joindate;
};
int main()
{
    int n;
    cout<<"Enter the number of students: ";
    cin>>n;
    students list[n];
    for(int i=0;i<n;i++)
    {
        cout<<"Enter the name & enrollment number of the Student "<<i+1<<endl;
        cin>>list[i].name;
        int x;
        cin>>x;
        list[i].enrolno=x;
        cout<<"Enter join date:"<<endl;
        cin>>list[i].joindate.date>>list[i].joindate.month>>list[i].joindate.y
ear;
    }
    for(int i=1;i<n;i++){
        students x=list[i];
        int t=x.joindate.year;
        int j=i-1;
        while(j>=0 && list[j].joindate.year>t){
            list[j+1]=list[j];
            j-=1;}
```

```
        list[j+1]=x;
    }
    faculty slist[n];
    for(int i=0;i<n;i++){
        slist[i].name=list[i].name;
        slist[i].enrolno=list[i].enrolno;
        slist[i].joindate.date=list[i].joindate.date;
        slist[i].joindate.month=list[i].joindate.month;
        slist[i].joindate.year=list[i].joindate.year;

        cout<<slist[i].name<<" "<<slist[i].enrolno<<"
"<<slist[i].joindate.date<<"\\"<<slist[i].joindate.month<<"\\"<<slist[i].joind
ate.year<<endl;
    }

    return 0;
}
```

OUTPUT-

```
PS C:\Users\HP\OneDrive\Desktop\C++\Assignment 7> cd "c:\Users\HP\Downloads\" ; if
Enter the number of students: 4
Enter the name & enrollment number of the Student 1
Arshita 21115024
Enter join date:
26 10 2021
Enter the name & enrollment number of the Student 2
Anya 21115678
Enter join date:
26 10 2020
Enter the name & enrollment number of the Student 3
Priyanka 21115045
Enter join date:
26 10 2020
Enter the name & enrollment number of the Student 4
Niharika 21115649
Enter join date:
26 4 2020
Anya 21115678 26\10\2020
Priyanka 21115045 26\10\2020
Niharika 21115649 26\4\2020
Arshita 21115024 26\10\2021
PS C:\Users\HP\Downloads>
```

Q3

```
#include<iostream>
using namespace std;
struct data1
{
    int a,b;
};
//take value inside
int main()
```

```
{
   data1 s1;
   data1 s2;
   data1 * ptr1=&s1;
   data1 * ptr2=&s2;
   cout<<"Enter first integer: ";
   cin>>(*ptr1).a;
   cout<<"Enter second integer: ";
   cin>>(*ptr2).b;
   int sum=(*ptr1).a+(*ptr2).b;
   cout<<endl<<sum;
   return 0;
}
```

OUTPUT-

```
PS C:\Users\HP\OneDrive\Desktop\C++\Assignment 7> cd "c:\Users\H
.\Q3 }
Enter first integer: 7
Enter second integer: 8

15
PS C:\Users\HP\OneDrive\Desktop\C++\Assignment 7>
```

Q4

```
#include<iostream>
#include<string>
using namespace std;
class IITR
{
private:
//list of courses and their credits
int PHN003=4;
int EEN103=4;
int EEN101=2;
int MAN001=4;
int HSN001=2;
int HSN002=2;
int CEN105=3;
public:
string s;
void getdata(void);
void display(void);
};
```

```
void IITR :: getdata(void)
{
 cout<<"Enter password to access the course data: ";
    cin>>s;
}
void IITR:: display(void)
{
    if(s=="IITR-2025UG")
    {
        cout<<"PHN003   "<<PHN003<<endl;
        cout<<"EEN103   "<<EEN103<<endl;
        cout<<"EEN101   "<<EEN101<<endl;
        cout<<"MAN001   "<<MAN001<<endl;
        cout<<"HSN001   "<<HSN001<<endl;
        cout<<"HSN002   "<<HSN002<<endl;
        cout<<"CEN105   "<<CEN105<<endl;
    }
}
int main()
{
    IITR d;
    d.getdata();
    d.display();
    return 0;
}
```

OUTPUT-

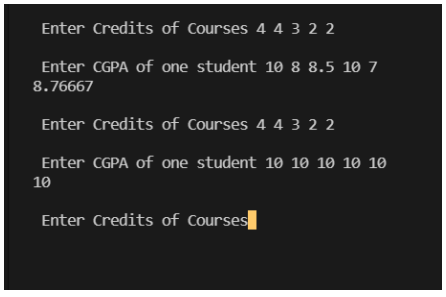
```
.\Q4 }
Enter password to access the course data: IITR-2025UG
PHN003   4
EEN103   4
EEN101   2
MAN001   4
HSN001   2
HSN002   2
CEN105   3
PS C:\Users\HP\OneDrive\Desktop\C++\Assignment 7>
```

Q5

```
#include<iostream>
using namespace std;
class students
{
    public:
    double c1,cg1;
    double c2,cg2;
    double c3,cg3;
```

```
    double c4,cg4;
    double c5,cg5;
    void getvalue();
    void display();
    double sgpa;
};
int main()
{
    students record[30];
    for(int i=0;i<30;i++)
    {
        record[i].getvalue();
        record[i].display();
    }
    return 0;
}
void students :: getvalue()
{
    cout<<"\n Enter Credits of Courses";
    cin>>c1>>c2>>c3>>c4>>c5;
    cout<<"\n Enter CGPA of one student";
    cin>>cg1>>cg2>>cg3>>cg4>>cg5;
    sgpa=((c1*cg1)+(c2*cg2)+(c3*cg3)+(c4*cg4)+(c5*cg5))/(c1+c2+c3+c4+c5);
}
void students :: display()
{
    cout<<sgpa<<endl;
}
```

OUTPUT-



similar output is expected for a set of 30 students.