

## HW3

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```
#include <iostream>
#include <cstring>
#include <iomanip>
using namespace std;
struct student
{
    string name;
    float m_math;
    float m_chem;
    float m_phy;
};

void bubble_sort(int len,student *ptr[]);
void input_data(int len,student *ptr[]);
void print_data(int len,student *ptr[]);
int main()
{
    int len=10;
    student students[10];
    student *ptr[10];
    for(int i=0;i<10;i++)
    {
        ptr[i]=&students[i];
    }
}
```

```

    }
    input_data(len,ptr);
    cout<<setw(80)<<"UNSORTED marks sheet of spring 2021\n";
    for(int i=0;i<len;i++)
    {
        cout<<"["<<i+1<<"] "<<ptr[i]->name<<": math("<<ptr[i]->m_math<<")
chemistry("<<ptr[i]->m_chem;
        cout<<") physics("<<ptr[i]->m_phy<<") \n"<<endl;

    }
    bubble_sort(len,ptr);
    print_data(len,ptr);
    return 0;
}

void input_data(int len,student *ptr[])
{
    cout<<setw(85)<<"Please input the names and marks of 10 students\n"<<endl;
    for (int i=0;i<len;i++)
    {
        cout<<"Name "<<i+1<<" : ";
        cin>>ptr[i]->name;
        cout<<"["<<i+1 <<".1] "<<ptr[i]->name<<"-Math marks: ";
        cin>>ptr[i]->m_math;
        cout<<"["<<i+1<<".2] "<<ptr[i]->name<<"-Chemistry marks: ";
        cin>>ptr[i]->m_chem;
        cout<<"["<<i+1<<".3] "<<ptr[i]->name<<"-Physics marks: ";
        cin>>ptr[i]->m_phy;
        cout<<endl;
    }
}

```

```
}
```

```
void bubble_sort(int len,student *ptr[])
```

```
{
```

```
    string temp;
```

```
    float temp1,temp2,temp3;
```

```
    for(int i=0;i<len;i++)
```

```
{
```

```
    for(int j=i+1;j<len;j++)
```

```
    {
```

```
    if(ptr[i]->name>ptr[j]->name)
```

```
    {
```

```
        temp=ptr[i]->name;
```

```
        ptr[i]->name=ptr[j]->name;
```

```
        ptr[j]->name=temp;
```

```
        temp1=ptr[i]->m_math;
```

```
        ptr[i]->m_math=ptr[j]->m_math;
```

```
        ptr[j]->m_math=temp1;
```

```
        temp2=ptr[i]->m_chem;
```

```
        ptr[i]->m_chem=ptr[j]->m_chem;
```

```
        ptr[j]->m_chem=temp2;
```

```
        temp3=ptr[i]->m_phy;
```

```
        ptr[i]->m_phy=ptr[j]->m_phy;
```

```
        ptr[j]->m_phy=temp3;
```

```

    }
}
}
}
void print_data(int len,student *ptr[])
{
    cout<<setw(79)<<"SORTED marks sheet of spring 2021\n"<<endl;
    for(int i=0;i<len;i++)
    {
        cout<<"["<<i+1<<"] "<<ptr[i]->name<<": math("<<ptr[i]->m_math<<")
chemistry("<<ptr[i]->m_chem;
        cout<<") physics("<<ptr[i]->m_phy<<") \n"<<endl;

    }

}

```