

This problem is to get you familiar with virtual functions. Create three classes *Person*, *Professor* and *Student*. The class *Person* should have data members *name* and *age*. The classes *Professor* and *Student* should inherit from the class *Person*.

The class *Professor* should have two integer members: *publications* and *cur\_id*. There will be two member functions: *getdata* and *putdata*. The function *getdata* should get the input from the user: the *name*, *age* and *publications* of the professor. The function *putdata* should print the *name*, *age*, *publications* and the *cur\_id* of the professor.

The class *Student* should have two data members: *marks*, which is an array of size **6** and *cur\_id*. It has two member functions: *getdata* and *putdata*. The function *getdata* should get the input from the user: the *name*, *age*, and the *marks* of the student in **6** subjects. The function *putdata* should print the *name*, *age*, *sum* of the marks and the *cur\_id* of the student.

For each object being created of the *Professor* or the *Student* class, sequential id's should be assigned to them starting from **1**.

Solve this problem using virtual functions, constructors and static variables. You can create more data members if you want.

**Note:** Expand the main function to look at how the input is being handled.

## Input Format

The first line of input contains the number of objects that are being created. If the first line of input for each object is **1**, it means that the object being created is of the *Professor* class, you will have to input the *name*, *age* and *publications* of the professor.

If the first line of input for each object is **2**, it means that the object is of the *Student* class, you will have to input the *name*, *age* and the *marks* of the student in **6** subjects.

## Constraints

$1 \leq \text{len}_{\text{name}} \leq 100$ , where  $\text{len}_{\text{name}}$  is the length of the name.

$1 \leq \text{age} \leq 80$

$1 \leq \text{publications} \leq 1000$

$0 \leq \text{marks} \leq 100$ , where marks is the marks of the student in each subject.

## Output Format

There are two types of output depending on the object.

If the object is of type *Professor*, print the space separated *name*, *age*, *publications* and *id* on a new line.

If the object is of the *Student* class, print the space separated *name*, *age*, the *sum of the marks* in **6** subjects and *id* on a new line.

## Sample Input

```
4
1
Walter 56 99
2
Jesse 18 50 48 97 76 34 98
2
Pinkman 22 10 12 0 18 45 50
1
White 58 87
```

## Sample Output

```
Walter 56 99 1
Jesse 18 403 1
Pinkman 22 135 2
White 58 87 2
```