Virtual Functions

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 data 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.

Input Format

There are two types of input. If the object being created is of the *Professor* class, you will have to input the *name, age* and *publications* of the professor.

If 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

$1 \le len_{name} \le 100$, where len_{name} is the length of the name.
$1 \le age \le 80$
$1 \le publications \le 1000$
$0 \le marks \le 100$, 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
```