**public interface** Finance {

**public double** calculateBudget();

**public void** display();

}

**public abstract class** Ministry **implements** Finance{

**protected int** nbEmployee;

**private** String name;

Ministry(String name, **int** nbEmployee)

{

**this**.name = name;

**this**.nbEmployee = nbEmployee;

}

Ministry(Ministry m)

{

name = m.name;

nbEmployee = m.nbEmployee;

}

**public int** getNbEmployee() {

**return** nbEmployee;

}

**public** String getName() {

**return** name;

}

**public void** display() {

System.***out***.print(name + nbEmployee);

}

}

**public class** Executive **extends** Ministry{

**private double** expenses;

Executive(String name, **int** nbEmployee, **double** expenses)

{

**super**(name,nbEmployee);

**this**.expenses = expenses;

}

Executive(Executive e) {

**super**(e);

expenses = e.expenses;

}

**public double** calculateBudget() {

**return** expenses + nbEmployee \* 1.5;

}

**public double** getExpenses() {

**return** expenses;

}

}

**public class** Government {

**private** String name;

**private** Ministry arMin[];

**private int** nb;

Government(String name, **int** size)

{

**this**.name = name;

arMin = **new** Ministry[size];

nb = 0;

}

**public void** addMinistry(Ministry m)

{

**if**(nb >= arMin.length)

**return**;

**if**(m **instanceof** Executive)

arMin[nb] = **new** Executive( (Executive)m );

**else if**(m **instanceof** Administrative)

arMin[nb] = **new** Administrative( (Administrative)m );

**else**

arMin[nb] = **new** Other( (Other)m );

nb++;

}

**public double** averageOfBudget()

{

**if**(nb == 0)

**return** 0;

**double** sum =0;

**for**(**int** i=0; i<nb; i++)

{

sum+=arMin[i].calculateBudget();

}

**return** sum/nb;

}

**public int** countExecutive(**double** e)

{

**int** count = 0;

**for**(**int** i=0;i<nb;i++)

**if**(arMin[i] **instanceof** Executive)

{ //alt: if(((Executive) arMin[i]).getExpenses > e)

Executive x = (Executive) arMin[i];

**if**(x.getExpenses() > e)

count++;

}

**return** count;

}

**public int** getExecutives(**double** e, Executive ae[])

{

**double** avg = averageOfBudget();

**int** j=0;

**for**(**int** i=0; i<nb; i++)

{

**if**(arMin[i] **instanceof** Executive)

**if**(arMin[i].calculateBudget() > avg)

{

Executive x = (Executive) arMin[i];

**if**(x.getExpenses() > e)

{

ae[j]=x;

j++;

}

}

}

**return** j;

}

}