

NORTHEAST REGIONAL CHAMPIONSHIP ROUND
OF THE
2001-02 ACM INTERNATIONAL COLLEGIATE PROGRAMMING CONTEST
SPONSORED BY IBM
WESTFIELD STATE COLLEGE, WESTFIELD, MA
November 3, 2001

Problem #2: Give me a break!

BIGIANT UNIVERSITY reports payroll expenses to the administration giving totals by department within school. For instance, within the school of arts and sciences totals would be accumulated for the Psychology, Economics, Philosophy, and other departments.

Your task is to write a program, which will accumulate total payroll expenses by department within school and report them. You will not list individual pay amounts, only the totals by department and by school.

You must report the total number of employees and total pay amount by department and by school, and give a grand total for the entire university. The data from which these totals are to be calculated are arranged in order by department within school. This process is known as "control break processing" because a control break is said to have occurred each time a department or school changes.

The following is an example of the type of data, which you will be processing: (End of input data is indicated by a line containing all nines.) The columns for the data are specified below:

SCHOOL NUMBER	DEPARTMENT NUMBER	INDIVIDUAL PAY AMOUNT
Column 1	Cols. 2 & 3	Cols. 4-10

Sample Data:

```
1010050000
1010025050
1010037825
1020078550
1020046520
2010075000
2010049675
2020120000
2020037800
2030074250
2040037500
2040065050
3010091613
3010085544
3020057515
3020110525
```

For the above sample data, the printed report would appear as follows:

BIGIANT UNIVERSITY
PAYROLL EXPENSE REPORT

SCHOOL	DEPARTMENT	NO. OF EMPLOYEES	PAYROLL
1	01	3	1,128.75
1	02	2	1,250.70
	SCHOOL TOTALS	5	2,379.45
2	01	2	1,246.75
2	02	2	1,578.00
2	03	1	742.50
2	04	2	1,025.50
	SCHOOL TOTALS	7	4,592.75
3	01	2	1,771.57
3	02	2	1,680.40
	SCHOOL TOTALS	4	3,451.97
	**UNIVERSITY TOTALS*	16	10,424.17

All titles and identifying information should be identical to the given output. Output should have SCHOOL, DEPARTMENT, and NO. OF EMPLOYEES columns right aligned. The PAYROLL column should be decimally aligned. The SCHOOL and UNIVERSITY TOTAL lines should also contain entries that are right aligned and decimally aligned with the data above them. All PAYROLL numbers, should include commas where appropriate. All titles (including the required report title) and identifying information should be in upper case letters. Blank lines should be included after the report title, the heading line, and each school total line. Horizontal spacing between columns may be approximate; however, data should be under appropriate headings.