

## Program #4

### Working with Tables

25 points; Due May 9 (Friday) at 5pm

#### Problem Description

You are writing a program to process the payroll of the International Chocolates Company, and creating a detail report for all employees. All employees are paid by the hour. Therefore, the company keeps a log file that records the work hours and standard pay rates for all employees during the week. Work hours exceed 40 are considered as overtime. Overtime hours are paid with an overtime rate:  $1.5 * \text{standard pay rate}$ . Note that, it is possible the employee log file contains invalid data due to human errors. Your program must identify errors in the log file and produce an exception report at the same time. An employee record is considered abnormal if the number of work hours is 0. In addition, no employees can have overtime hours exceed 20. If the above errors are identified, the employee's record should be written to the exception report instead of printing on the detail report.

All wages paid are subject to income tax withholding. Since the tax rates may change, the company is maintaining a tax table in a disk file. Your program is required to load the tax table and lookup the appropriate tax rate in order to compute the income tax. **If the gross pay is beyond the highest tax level, a constant tax rate of 15% is applied.** The net pay is then computed by subtracting the amount of income tax withheld from the gross pay.

#### Input

A line sequential file PROGRAM4.DAT records the hours and standard pay rates for all employees. TAX.DAT is a line sequential file containing the tax rates.

Employee Log File (Program4.dat), record size 10			
Field	Size	Type	Decimal
Employee ID	4	Alphanumeric	-
Hours	2	Numeric	0
Pay Rate	4	Numeric	1

Tax Table (Tax.dat), record size: 7			
Field	Size	Type	Decimal
Wage Level	4	Numeric	0
Tax Rate	3	Numeric	3

#### Output

##### (1) Detail report for the payroll,

- Your report must include the following information for each employee: (1) employee id, (2) hours, (3) pay rate, (4) gross pay, (5) tax rate, (6) income tax withheld, and (7) net pay.
- At the end of the report, you **MUST** print out the grand total of (1) gross pay, (2) income tax withheld, and (3) net pay.

##### (2) Exception report

- Your report must include the following information for each abnormal record: (1) employee id, (2) hours, (3) pay rate, (4) an error message "Number of hours is ZERO!!", or "Exceed maximum overtime hours!!"
- At the end of the report, you **MUST** print out the number of total errors identified.

**Requirement and Grading**

1. Upload your source code \*.cbl, and 2 reports to the Dropbox **Program 4** on D2L. **0 points** if any reports missing.
2. In order to get the credit for this programming assignment, all dollar amounts, including gross pay, income tax, net pay and their totals must be correct. **0 points** if any amounts are incorrect.
3. You **MUST** use the runtime (execution-time) table, or **0 points**.
4. **2 points off** for missing any items specified in the output section.
5. All numeric items must be edited for readability. **2 points off** for each item not edited.
6. The headings of both reports must contain the following information: (1) company name, (2) report name, (3) date: mm/dd/yyyy and time: hh:mm), (4) your name. **2 points off** for missing any information.
7. No more than 30 lines in all paragraphs (**1 points off** each violation, up to **3 points off**).
8. Programming Style. Follow the guidelines on D2L. The grading table in the programming guidelines will be used to grade your program.
9. **Late penalty: 0 points** for late submission.