

PROBLEM STATEMENT FOR THE DEBUGGING PROBLEMS

MAIN PROGRAM SPECIFICATIONS:

The purpose of this program is to calculate and report a detailed property tax bill for a property owner. The property tax bill represents the taxes levied by three taxing units, the city, the school district, and the county, as well as any special assessments against the property by each of the taxing units. The master file will be a Sequence Data Set file, sorted by Property location (Plat, Block, and Lot) consisting of the following fields:

FIELD	CC	COMMENTS
Plat	1-3	Must be numeric.
Block	4-5	Must be numeric.
Lot	6-7	Must be numeric.
Owner Name	8-27	Alphanumeric.
Owner Address	28-47	Alphanumeric.
Owner City	48-57	Alphanumeric.
Owner State	58-59	Alphanumeric.
Owner Zip Code	60-64	Must be numeric.
Property Code	65-66	Alphanumeric - Values A1 - A4, R1 - R4, I1 - I4, B1 - B4
Property Value	67-75	Signed field -- 0 decimal places
Appraisal Date	76-81	Must be numeric -- MMDDYY
Special Assessments	82-101	2 characters occurs 10 times, 1st character 0-9, 2nd T = City, C = County, S = School
Past Due County	102-110	Signed field -- 2 decimal places
Past Due School	111-119	Signed field -- 2 decimal places
Past Due City	120-128	Signed field -- 2 decimal places
Unused	129-130	Future expansion

The transaction file will also be sorted by Property Location (Plat, Block, Lot), and will have a logical record length of 66 bytes and a blocking factor of 10. The record has the following field descriptions:

FIELD	CC	COMMENTS
Plat	1-3	Must be numeric.
Block	4-5	Must be numeric.
Lot	6-7	Must be numeric.
Transaction Type	8-9	Values: N -- Charge Owner Name NA -- Change Owner Name, Address, City, State, Zip A -- Change Owner Address, City, State, Zip PV -- Change Property Code, Value, Assessment Date V -- Change Property Value, Assessment Date AS -- Add Special Assessment Code DS -- Delete Special Assessment Code DC -- Change Past Due County DS -- Change Past Due School DT -- Change Past Due City

Transaction 10-66 Depends on the Transaction Type

The transaction file will be read and the Property Location will be matched with the Property Location in the Master file.

The main program will create a report on property taxes due (output format shown below). The changes from the transaction file will be reflected in this report. All computations required for individual properties will be done in the subprogram, the main program will calculate page totals and report totals for Property Tax Due the County, School, City, and Total Due. The appropriate fields in the Master file, and the two millage rate tables shown below (these tables will be defined in the main programs WORKING-STORAGE SECTION) will be passed to the subprogram. The report will contain company name, report title, run date, page number, and column headings. Detail lines will be as shown in the output format below. Grand totals should be provided on a separate page with columnar headings suppressed. Double space between records. An appropriate error report

will also be generated.

Millage Rate Table (Dollars of Tax per Thousand Dollars of Value)

Taxing Agency

Property Type	County	School	City
A1	1.57 0.06	0.00	
A2	1.68 0.12	0.09	
A3	1.88 0.18	0.23	
A4	2.06 0.28	0.37	
R1	2.50 2.03	1.75	
R2	2.75 2.47	2.04	
R3	3.25 3.17	2.53	
R4	3.50 3.41	2.86	
I1	2.65 1.92	2.36	
I2	2.85 2.07	2.72	
I3	2.99 2.31	2.84	
I4	3.05 2.63	2.97	
B1	1.86 1.55	1.98	
B2	2.09 1.74	2.21<	
B3	2.23 1.92	2.44	
B4	2.47 2.02	2.69	

Special Assessment Millage Rate Table

Taxing Agency

Assessment Number	County	School	City
0	0.060 0.015	0.017	
1	0.057 0.060	0.020	
2	0.048 0.012	0.019	
3	0.880 0.018	0.023	
4	0.026 0.000	0.037	
5	0.025 0.000	0.075	
6	0.000 0.000	0.048	
7	0.000 0.000	0.025	
8	0.000 0.000	0.028	
9	0.000 0.000	0.000	

SUBROUTINE PROGRAM SPECIFICATIONS:

The subroutine will first determine if any property taxes are past due and set a flag for use by the main program to print a message that there are past due property taxes, and for which taxing unit they are past due. All calculations on individual property locations will be performed using the TABLES from the main program. The results of these calculations will then be used by the main program.

Source Code:

IDENTIFICATION DIVISION.

PROGRAM-ID. PROPERTYTAX .

DATE-WRITTEN. Dec 10 2013.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT MASTER-FILE ASSIGN TO "MAST.IN".

SELECT TRANS-FILE1 ASSIGN TO "taxagency"

```
SELECT TRANS-FILE2 ASSIGN TO "specialassessment".
SELECT PROPERTY-TAX-OUT
      ASSIGN TO "TAX.OUT".
DATA DIVISION.
```

```
FILE SECTION.
```

```
*
*
*
```

```
DESCRIBE THE INPUT FILE
```

```
FD MASTER-FILE
LABEL RECORDS STANDARD
BLOCK CONTAINS 50 RECORDS
RECORD CONTAINS 550 CHARACTERS
DATA RECORD IS MASTER-FILE.
01 MASTER-FILE.
   05 Palat PIC 9(6).
   05 FILLER PIC XX.
   05 Block1 PIC 9(6)..
   05 FILLER PIC XX.
   05 PLot PIC 9(6).
   05 FILLER PIC XX.
   05 Owner-Name PIC X(40).
   05 FILLER PIC XX.
   05 Owner-Address PIC X(40).
   05 FILLER PIC XX.
   05 Owner-City PIC X(40).
   05 FILLER PIC XX.
   05 Owner-State PIC X(40).
   05 FILLER PIC XX.
   05 Owner-ZIPCODE PIC 9(6).
   05 FILLER PIC XX.
   05 PROPERTY-TYPE PIC 9(6).
   05 FILLER PIC XX.
   05 PROPERTY-VALUE PIC 99V999.
   05 FILLER PIC XX.
   05 Appraisal-Date
     07 Day1 PIC 99.
     07 Month PIC 99.
     07 Year PIC 9(4).
   05 SPECIAL-ASSESSMENT PICX(9).
   05 Past Due Country PIC 99V999.
   05 Past Due School PIC 99V999.
   05 Past Due City PIC 99V999.
```

```
*
*
*
```

```
DESCRIBE THE OUTPUT FILE
```

```
FD PROPERTY-TAX-TEPORT
      RECORDS CONTAINS 500 CHARACTERS
      DATA RECORDS IS PROPERTY-TAX-REPORT.
```

```
01 PROPERTY-TAX-REPORT.
```

```
   02 COMPANY-NAME PIC X(40).
   02 REPORT-TITLE PIC X(10).
   02 RUNDATA PIC X(10)
   02 PAGE-NUMBER PIC 9(6).
   02 GRANT-TOTAL PIC 99V999.
```

```
WORKING-STORAGE SECTION.
```

```
01 CONTROL-FIELDS.
```

```

02      END-OF-FILE          PIC X(1) VALUE 'N'.
01 WORKING-FIELDS.
      02 PROPERTY-TYPE  PIC X(6).
      02 FILLER PIC XX.
      02 SPECIAL-ASSESSMENT PICX(9).VALUE 'AS'

```

PROCEDURE DIVISION.

A000-CONTROL-LOGIC.

```

PERFORM B100-initialize-processing.
PERFORM B200-process-data
UNTIL end-of-file equal to 'y'.
PERFORM B300-terminate-processing.
STOP RUN.

```

* OPEN INPUT/OUTPUT FILES

*

B100-initialize-processing.

```

OPEN INPUT TRANS-FILE1
      TRANS-FILE2
      OUTPUT PROPERTY-TAX-OUT.
PERFORM X100-read-data.

```

*

* PROCESS DATA.

*

B200-process-data.

```

PERFORM C100-CALC-PROPERTY-TYPE.
PERFORM C400-CALC-ASSESSMENT-TYPE
PERFORM X200-write-data.
PERFORM X100-read-data.

```

*

* CLOSE INPUT/OUTPUT DATA FILES

*

B300-terminate-processing.

```

CLOSE TRANS-FILE1.
      PROPERTY-TAX-OUT.

```

*

* CALCULATE PROPERTY-TYPE.

*

C100-CALC-PROPERTY-TYPE.

SET name-index to 1.

PERFORM UNTIL name-index > 1000

```

PROPERTY-TYPE (name-index) = input-name

```

```

IF PROPERTY-TYPE = 'A1' THEN
GIVING GRANT-TOTAL = 1.57+0.06
IF-ELSE IF PROPERTY-TYPE = 'A2' THEN
GIVING GRANT-TOTAL = 1.68 +0.12+0.09
IF-ELSE IF PROPERTY-TYPE = 'A3' THEN
GIVING GRANT-TOTAL = 1.88+ 0.18+ 0.23
IF-ELSE IF PROPERTY-TYPE = 'A4' THEN
GIVING GRANT-TOTAL =2.06+ 0.28+ 0.37
IF-ELSE IF PROPERTY-TYPE = 'R1' THEN
GIVING GRANT-TOTAL=2.50+ 2.03+ 1.75
IF-ELSE IF PROPERTY-TYPE = 'R2' THEN
GIVING GRANT-TOTAL=2.75 +2.47+ 2.04
IF-ELSE IF PROPERTY-TYPE = 'R3' THEN
GIVING GRANT-TOTAL=3.25+ 3.17+2.53
IF-ELSE IF PROPERTY-TYPE = 'R4' THEN
GIVING GRANT-TOTAL=3.50+3.41+ 2.86
IF-ELSE IF PROPERTY-TYPE = 'I1' THEN
GIVING GRANT-TOTAL=2.65+ 1.92+2.36

```

```
IF-ELSE IF PROPERTY-TYPE = 'I2' THEN
GIVING GRANT-TOTAL=2.85+2.07+ 2.72
IF-ELSE IF PROPERTY-TYPE = 'I3' THEN
GIVING GRANT-TOTAL=2.99+2.31+2.84
IF-ELSE IF PROPERTY-TYPE = 'I4' THEN
GIVING GRANT-TOTAL=3.05+2.63+2.97
IF-ELSE IF PROPERTY-TYPE = 'B1' THEN
  GIVING GRANT-TOTAL=1.86+ 1.55+ 1.98
  IF-ELSE IF PROPERTY-TYPE = 'B2' THEN
    GIVING GRANT-TOTAL=2.09 +1.74+ 2.21
    IF-ELSE IF PROPERTY-TYPE = 'B3' THEN
      GIVING GRANT-TOTAL=2.23+ 1.92+ 2.44
      IF-ELSE IF PROPERTY-TYPE = 'B4' THEN
        GIVING GRANT-TOTAL=2.47+ 2.02+2.69
      END-IF
    END-IF
  END-IF
END-IF
```

```
      display 'please type correct or check in transaction file'
      set name-index up by 1
    else set name-index up by 1
end-perform.
```

```
*
* CALCULATE PROPERTY-TYPE.
*
C400-CALC-ASSESSMENT-TYPE.
```

```
      ASSESMENT-TYPE.
      SET name-index to 1.
PERFORM UNTIL name-index > 1000
  ASSESMENT-TYPE (name-index) = 'AS'
  GIVING GRANT-TOTAL.
```

```
END-READ
END-PERFORM.
```

```
WRITE TAX.OUT FROM PROPERTY-TAX-OUT.
```