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*****
*
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* CS 310, SPRING 2013
* PROGRAM 1
* DUE: FEBRUARY 20, 2013
*
* DESCRIPTION:
* THIS PROGRAM EXPECTS AS INPUT
* AN UNKNOWN NUMBER OF DATA
* LINES. EACH DATA LINE CONTAINS
* THREE INTEGERS (SEPARATED
* BY ONE OR MORE BLANKS). THE
* PROGRAM THEN DETERMINES THE
* LARGEST VALUE ON EACH LINE AND
* PRINTS THE VALUE. THE PROGRAM
* ALSO SUMS UP THE LARGEST
* VALUES. THE SUM IS PRINTED.
*
* REGISTER KEY:
* REG2 -> 1ST VALUE ON LINE
* REG3 -> 2ND VALUE ON LINE
* REG4 -> 3RD VALUE ON LINE
* REG5 -> LARGEST VALUE ON LINE
* REG6 -> SUM OF LARGEST VALUES
*
*****
SPACE
SPACE
BEAVER1 START
SPACE
SPACE
*****
*
* BEGINNING HOUSEKEEPING
*
*****
STM 14,12,12(13)
BALR 12,0
USING SAVING,12
SAVING ST 13,SAVEAREA+4
LA 13,SAVEAREA
SPACE
SPACE
*****
*
* MAIN PROGRAM BODY
*
*****
SR 6,6
SPACE
SPACE
*
* READ UNTIL EOF
*
TOPREAD XREAD CARD,80
BC B'0100',ENDREAD
SPACE
*
* RETRIEVE THE THREE VALUES
*
* XPRNT =C'0THE DATA LINE IS: ',19
* XPRNT CARD-1,79
* XDECI 2,CARD

```

ZERO-OUT REG6

EOF =&gt; END LOOP

OUTPUT DATA LINE  
1ST NUMBER

```

XDECI 3,0(1)
XDECI 4,0(1)
SPACE

*
* COMPARE NUMBERS
*
IF      CR    2,3
      BC    B'1010',THEN
      BC    B'0100',ELSE
THEN    CR    2,4
      BC    B'1010',SAVE1
ELSE    CR    3,4
      BC    B'1010',SAVE2
      BC    B'0100',SAVE3
      SPACE

*
* 1ST NUMBER IS LARGEST
*
SAVE1   LR    5,2
      BC    B'1111',PRINT
      SPACE

*
* 2ND NUMBER IS LARGEST
*
SAVE2   LR    5,3
      BC    B'1111',PRINT
      SPACE

*
* 3RD NUMBER IS LARGEST
*
SAVE3   LR    5,4
      SPACE

*
* OUTPUT LARGEST NUMBER
*
PRINT   XDECO 5,OUTLINE
      XPRNT LRGHEAD,23
      XPRNT CARRIAGE,13
      SPACE
      AR    6,5
      BC    B'1111',TOPREAD
      SPACE

*
* OUTPUT SUM OF LARGEST VALUES
*
ENDREAD XDECO 6,OUTLINE
      XPRNT SUMHEAD,23
      XPRNT CARRIAGE,13
      SPACE
      SPACE
*****
*
* ENDING HOUSEKEEPING
*
*****
      L     13,SAVEAREA+4
      LM    14,12,12(13)
      BR    14
      SPACE
      SPACE

```

2ND NUMBER  
3RD NUMBER

COMPARE 1ST & 2ND NUMBERS  
1ST >= 2ND  
2ND > 1ST  
COMPARE 1ST & 3RD NUMBERS  
1ST >= 3RD  
COMPARE 2ND & 3RD NUMBERS  
2ND >= 3RD  
3RD > 2ND

COPY VALUE TO REG5  
GOTO PRINT

COPY VALUE TO REG5  
GOTO PRINT

COPY VALUE TO REG5

ADD LARGEST VALUE TO SUM  
LOOP BACK TO TOP

```

*****
*                                     *
*   DECLARE STORAGE AND CONSTANTS   *
*                                     *
*****
SAVEAREA DS      18F
CARD      DS      CL80
CARRIAGE DC      C'+ '
OUTLINE   DS      CL12
LRGHEAD   DC      C' THE LARGEST VALUE IS: '
SUMHEAD   DC      C'0          THE SUM IS: '
          SPACE
          SPACE
*****
*                                     *
*   END, DATA ENTRY, AND LITERAL POOL *
*                                     *
*****
          END      BEAVER1
$ENTRY

```