

## Simple Math – (Packed Arithmetic)

100 Points

Data Formats: In: CSU.PUBLIC.DATA(DATAPRG3)

CC 1 - 2 Variable A (Input and Output)

CC 6 - 7 Variable B (Input and Output)

CC 11 - 11 Variable C (Output Only)

CC 16 - 17 Variable S (Output Only)

Assume that two fields A and B are given. (**May not be digits!**)

**Validate** that A is a positive 2-digit integer **less than** 94, and that B is **not greater than** A. (OK for B to equal A!) If A or B is invalid, output A and B without calculating S or C!

Create S by adding 4 to B and if S is an Odd Integer, ADD 1 to it. (Making it Even!) Then subtract S from A giving N.

Convert N to a letter in the variable C using the following rules:

If  $N < 1$ , then  $C = 'T'$

If  $N = 1$  thru 4, then  $C = 'A'$  thru  $'D'$

If  $N > 4$ , then  $C = 'X'$

Name your program: PROG3 and leave it in your Library. Break the program logic into subroutines about a screen each and use the BAS instruction to call them! No 'SPAGHETTI CODE!!'

Use: CSU.PUBLIC.DATA(DATAPRG&PROG) as the input dataset. It's OK to leave 'debug' items in the print line!

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Example: Enter A = 18, B = 12

Output: 18 12      B    16

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Example: Enter A = 21, B = 15

Output: 21 15      A    20

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