

HHC 2013 RPL Programming Contest

September 21-22, 2013, Fort Collins, Colorado

Problem Description: Normal base-10 addition involves a carrying step whenever two digits sum to 10 or greater. For example, in $23 + 49 = 72$, the $3 + 9$ involves carrying a 1 to the tens unit. In false addition, any numbers that would be carried are simply dropped. So $23 + 49 = 62$, since $3 + 9 = 12$ (giving the 2 in the units place), and $2 + 4 = 6$ (ignoring the carried 1).

Input: Integer a in level 3, Integer b in level 2, the base in level 1 of the stack. Note: these will be keyed as real numbers but will not have any values after the decimal point. Bases entered will be 2, 8, 10 or 16.

Output: The result of false addition of the real numbers a and b in the input base. Your program should work regardless of the base of the machine when the program is run and your program should stop in the entered base. This is the only allowable change to the machine's status.

Sample Cases:

- 1) 499 ENTER 861 ENTER 10. After executing your program, the output should be 250.
- 2) 654 ENTER 456 ENTER 8. After executing your program, the output should be 222.

Machines Eligible: This contest is open to any and all RPL-style machines.

Rules: (aka the fine print)

- 1) The decision of the judge is FINAL. No appeals are allowed to anyone or anything.
- 2) The purpose of this contest is to have fun and learn and at least two contestants must submit an entry.
- 3) The speed results for all entries will be "normed" by counting the ticks for a loop. This loop program object will be loaded into YOUR machine by the judge.
- 4) No custom built ROM or machine code can be built and used for this problem. Any already existing functionality in the machine is ok. Sysevals, etc are allowed. Your program must be ONE OBJECT. Everything must be self-contained in this one object. No pre-storing of constants, etc. is allowed.
- 5) You must also submit a legible listing of your program with your name on the listing. Your program must run on your own machine.
- 6) Submission must be made by the end of the contest (Time is TBA).
- 7) By submitting a program, you agree to allow it to be shared with the community.
- 8) This is a contest between individuals, not teams. One submittal <> one person.
- 9) You may not access the internet for any help in any fashion. Do not cheat in any way. Do not check the HP Museum Forum either.
- 10) You must be present to win.
- 11) If a point is unclear, ask immediately. No excuses for ignorance. Clarifications will be shared with the entire group during the conference.
- 12) Assume default machine settings. Your program must stop with the default settings in place except as noted above in the problem description. Default flag settings (except for flag -95) are assumed and must be restored if changed again except as noted above.
- 13) The winning program will be the one for which $\text{size} * \text{speed}$ (bytes*sec) is least, where the speed of execution will be determined for one or more test cases chosen by the judge.
- 14) The program must be a (self-contained) single object in user code which does not call it self by name.
- 15) The stack, apart from input and output, must be left as found.
- 17) The program must not contain KILL or otherwise interfere with the programmatic testing and evaluation of submissions, i.e., you cannot delete everything on the judge's machine except your own program!
- 18) Happy Programming.