



Ponder This

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May 2013

<<April May June>>

Ponder This Challenge:

Define a program to be a list of commands, each command of the form
 $Variable_1 \leftarrow Variable_2 \text{ Operation } constant$
 or
 $Variable_1 \leftarrow Variable_2 \text{ Operation } Variable_3$
 where operation can be either addition, multiplication or modulo.

Here is an example of a program which computes the function
 $f(x) = 1 + x + x^2 + x^4 \pmod{2233393}$

```
a=x*47518
b=a*a
c=x+1
d=c+b
e=b*b
f=e+d
g=f mod 2233393
```

Find another program which computes the same function which uses a multiplying two variables at most twice and its last two commands are: a multiplication of two variables and a modulo computation.

We will post the names of those who submit a correct, original solution!
 If you don't want your name posted then please include such a statement in your submission!

We invite visitors to our website to submit an elegant solution. Send your submission to the ponder@il.ibm.com.

If you have any problems you think we might enjoy, please send them in.
 All replies should be sent to: ponder@il.ibm.com

Challenge: 05/01/2013 @ 01:00 PM EST
 Solution: 06/03/2013 @ 01:00 PM EST
 List Updated: 05/01/2013 @ 01:00 PM EST

People who answered correctly:

*Jan Fricke (04/30/2013 02:36 PM EDT)
 Thomas Mack (05/01/2013 12:43 AM EDT)
 János Kramár (05/01/2013 01:54 AM EDT)
 Siji Feng (05/01/2013 02:02 AM EDT)
 Robin Ryder (05/01/2013 02:15 AM EDT)
 *Radu-Alexandru Todor (05/01/2013 05:07 AM EDT)
 *Florian Fischer (05/01/2013 05:38 AM EDT)
 Frederik Kaster (05/01/2013 06:51 AM EDT)
 Adrian Orzepowski (05/01/2013 07:22 AM EDT)
 Pete Gerritson (05/01/2013 10:39 AM EDT)
 Alan Murray (05/01/2013 11:14 AM EDT)
 Pavan Vaswani (05/01/2013 01:41 PM EDT)
 Paul Safier (05/02/2013 02:35 AM EDT)
 Arthur Vause (05/02/2013 08:20 AM EDT)
 Peter Holdsworth (05/02/2013 12:05 PM EDT)
 Don Dodson & Dave Dodson (05/03/2013 12:28 AM EDT)
 Siva Dirisala (05/03/2013 03:44 AM EDT)
 Joseph DeVincentis (05/03/2013 07:38 AM EDT)
 Andrew Gacek (05/03/2013 09:03 AM EDT)
 Olivier Mercier (05/03/2013 09:18 AM EDT)
 Alex Fleischer (05/03/2013 10:57 AM EDT)
 John Tromp (05/03/2013 12:52 PM EDT)
 *Eric Harley (05/03/2013 02:00 PM EDT)
 David Greer (05/03/2013 09:40 PM EDT)
 Yasodhar Patnaik (05/03/2013 11:28 PM EDT)
 Albert Stadler (05/04/2013 12:16 PM EDT)
 *Alex Wagner (05/04/2013 02:42 PM EDT)
 Xianchao Xie (05/04/2013 07:29 PM EDT)
 Gerhard + Klaus Hoffmann (05/04/2013 02:49 PM EDT)
 Liubing Yu (05/05/2013 01:23 PM EDT)
 Antonio Garcia Astudillo (05/05/2013 04:05 PM EDT)
 Joe Klobusicky (05/05/2013 04:59 PM EDT)
 Amos Guler (05/06/2013 09:45 AM EDT)
 Peijie You (05/07/2013 01:15 AM EDT)
 Pushkar S Joglekar (05/07/2013 04:58 AM EDT)
 Harald Bögeholz (05/07/2013 02:07 PM EDT)
 Clive Tong (05/07/2013 02:43 PM EDT)
 Dan Dima (05/07/2013 03:57 PM EDT)
 Javier Rodriguez (05/07/2013 05:09 PM EDT)
 *Armin Krauss (05/08/2013 01:03 PM EDT)
 Todd Will (05/08/2013 03:09 PM EDT)
 Rodrigo Exterckötter Tjäder (05/08/2013 08:14 PM EDT)
 Swaraj Dash (05/07/2013 09:49 AM EDT)
 Adir HaCohen (05/09/2013 07:00 PM EDT)
 *Lorenzo Gianferrari Pini (05/10/2013 07:14 AM EDT)
 Mark Pervovskiy (05/10/2013 09:44 AM EDT)
 *Álvaro Begué (05/10/2013 09:54 AM EDT)
 *I. J. Kennedy (05/10/2013 12:01 PM EDT)
 Daniel Branscombe (05/10/2013 08:31 PM EDT)
 Rogerio Ponce (05/11/2013 04:33 AM EDT)
 Seung Min Park (05/12/2013 09:47 AM EDT)
 *Antoine Comeau (05/12/2013 04:01 PM EDT)
 Andreas Stiller (05/13/2013 06:24 AM EDT)
 *Serge Gautier (05/13/2013 04:04 PM EDT)
 *Motty Porat (05/15/2013 03:53 PM EDT)
 *Tom Harley (05/15/2013 04:23 PM EDT)
 Zilin Jiang (05/15/2013 10:57 PM EDT)
 Andreas Razen (05/19/2013 03:46 AM EDT)
 Jason Lee & Jacob Woolcutt (05/19/2013 09:36 AM EDT)
 Fianza Cavalcante Jr (05/22/2013 11:09 AM EDT)
 Rongheng Lin (05/23/2013 01:38 PM EDT)
 Nyles Heise (05/23/2013 11:01 PM EDT)
 William Kang (05/25/2013 08:33 AM EDT)