IBM

Ponder This

Ponder This

August 2013

<<July **August** September>>

Ponder This Challenge:

Put five-bit numbers on the vertices of a 9-dimensional hypercube such that, from any vertex, you can reach any number in no more than two moves along the edges of the hypercube.
Please provide the answer as a string of 512 characters using the following alphabet: ABCDEFGHIJKLMNOPQRSTUVWXYZ012345.
To clarify, here is a solution for the same problem with four-bit numbers on a 5-dimensional hypercube, where you can get to any number from any vertex by at most two moves along the edges:
"KLICHBEFMJAGPONDDNOPGAJMFEBHCILK"
This refers to:

Vertex	Character(Value)
00000	K(10)
00001	L(11)
00010	I(8)
00011	C(2)
00100	H(7)
00101	B(1)
00110	E(4)
00111	F(5)
01000	M(12)
01001	J(9)
01010	A(0)
01011	G(6)
01100	P(15)
01101	O(14)
01110	N(13)
01111	D(3)
10000	D(3)
10001	N(13)
10010	O(14)
10011	P(15)
10100	G(6)
10101	A(0)
10110	J(9)
10111	M(12)
11000	F(5)
11001	E(4)
11010	B(1)
11011	H(7)
11100	C(2)
11101	I(8)
11110	L(11)
11111	K(10)

Each vertex of the five-dimensional hypercube is represented by five bits; this example uses only the first half of the alphabet: from A(0) to P(15).
Please wait for September with August's solution.

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.

Challenge: 07/31/2013 @ 01:00 PM EST
Solution: 09/01/2013 @ 01:00 PM EST
List Updated: 08/28/2013 @ 01:00 PM EST

People who answered correctly:

James Wilcox (08/01/2013 10:30 AM EDT)
Zhuo Wang (08/01/2013 02:47 PM EDT)
Christian Burnham (08/01/2013 05:07 PM EDT)
Grahame Erskine(08/02/2013 09:38 AM EDT)
Alexander Borg (08/02/2013 11:37 AM EDT)
Andreas Stiller (08/02/2013 04:03 PM EDT)
Andreas Razen (08/03/2013 10:31 AM EDT)
Jan Fricke (08/03/2013 05:24 PM EDT)
Jonathan Campbell (08/03/2013 08:17 PM EDT)
Kenneth Arnold (08/04/2013 12:55 AM EDT)
Tom Harley (08/04/2013 10:29 PM EDT)
Bart De Vylder (08/05/2013 02:44 AM EDT)
Ivan Pechenezhskiy (08/05/2013 06:39 AM EDT)
Radu-Alexandru Todor (08/05/2013 11:40 AM EDT)
Daniel Bitin (08/05/2013 02:59 PM EDT)
Matt Gara (08/05/2013 03:51 PM EDT)
Reiner Martin (08/05/2013 04:36 PM EDT)
Masoud Alipour (08/05/2013 08:50 PM EDT)
Kevin Bauer (08/05/2013 09:10 PM EDT)
James Dow Allen (08/06/2013 09:40 PM EDT)
Gergely Pataki (08/07/2013 04:06 PM EDT)
Don Dodson (08/07/2013 11:40 AM EDT)
Todd Will (08/08/2013 07:00 AM EDT)
Zepeng Xie (08/08/2013 12:04 PM EDT)
Richard Blankman (08/08/2013 04:21 PM EDT)
Alex Wagner (08/08/2013 09:36 PM EDT)
Duane Bailey (08/09/2013 10:17 AM EDT)
Henry Liu (08/10/2013 10:48 AM EDT)
Chad Barb (08/11/2013 02:05 AM EDT)
John Tromp (08/11/2013 11:12 AM EDT)
Joseph Berman (08/11/2013 08:31 PM EDT)
Mark Pervovskiy (08/13/2013 06:24 PM EDT)
Olivier Mercier (08/13/2013 10:29 PM EDT)
Emanuele Natale (08/14/2013 01:59 PM EDT)
Benjamin Phillabaum (08/14/2013 03:04 PM EDT)
Harald Bögeholz (08/15/2013 02:33 PM EDT)
Jason Levy (08/15/2013 07:52 AM EDT)
Graham Hemsley (08/16/2013 05:22 AM EDT)
Dieter Beckerle (08/16/2013 06:26 PM EDT)
Ken Meehan (08/19/2013 09:43 PM EDT)
David Greer (08/20/2013 11:40 AM EDT)
Peter Holthe Hansen & Thomas Glinski (08/22/2013 03:32 PM EDT)
Kan Shen (08/22/2013 10:14 PM EDT)
Andrea Andenna (08/23/2013 03:11 AM EDT)
Matej Kollar (08/23/2013 04:37 PM EDT)
Fabio Michele Negroni (08/24/2013 06:34 AM EDT)
Motty Porat (08/24/2013 03:25 PM EDT)
Wenxun Huang (08/25/2013 03:27 AM EDT)
Shirish Chinchalkar (08/25/2013 10:58 PM EDT)
Balakrishnan Varadarajan (08/26/2013 09:56 AM EDT)
Reichel Lorenz (08/28/2013 02:44 AM EDT)
Tomek Czajka (08/28/2013 04:48 PM EDT)
Alex Fleischer (08/29/2013 12:19 AM EDT)
Javier Rodriguez (08/30/2013 04:17 AM EDT)
Clive Tong (08/31/2013 10:00 AM EDT)
Armin Krauss (08/31/2013 10:14 AM EDT)
William Heller (08/31/2013 08:19 PM EDT)

Attention: If your name is posted here and you wish it removed please send email to the ponder@il.ibm.com.