Maria and her husband invite two male and two female friends for dinner at home. The six of them sit at a round table. Maria tells you the following: Victor sat on the left of the woman who sat on the left of the man who sat on the left of Anna. Emily sat on the left of the man who sat on the left of the woman who sat on the left of the man who sat on the left of the woman who sat on the left of my husband. Jim sat on the left of the woman who sat on the left of Roger. I did not sit next to my husband   What is the name of Maria's husband?

Cells on a very long tape are filled with a repeating pattern of symbols from left to right. If the pattern is given by [A B C], then the tape looks like this:   A B C A B C A B . . .   The tape is fed into a machine which can read a symbol one cell at a time. The reader starts with the leftmost symbol on the tape and interprets the symbols as follows:   B Move left 1 cell A Move right 2 cells C Move right 3 cells X Stop   If the symbol tells the machine to move left or right, it does so, and having completed that move, it then reads the symbol in the new cell. (The machine ignores any symbols it may move over on the way to the new symbol.) Example: for the tape above, the machine will see and execute the following symbols in this order: A C C C C C . . .   Find the shortest repeating symbol pattern that will produce the following result: C C C X.

Suppose you have a hinged ladder made out of 5 meters long sections, connected together by the brace of length b half way along each section, as illustrated in the figure below.   What must the length of b of the brace be in order for the top of the ladder to be 3 meters off the ground?

f(x)= \begin{cases} 0, & \text{if } x = 0\\ 2f(x-1) + 1, & \text{if } x > 0 \end{cases} ,What is the solution to f(n), n≥0

A very curious cat decides to go up a 100 step ladder starting from the bottom. However, it does so in a very unconventional way: i It climbs up two steps (+2) ii It goes down one step (-1) iii It climbs up the sum of the absolute values of the previous two moves (+3 on the first iteration) iv It goes down the sum of the absolute values of the previous two moves (-4 on the first iteration)   and then repeats steps (iii) and (iv) until it reaches the top of the ladder. We asked a student to write an algorithm which displays a message when the cat reaches the top of the ladder, but, when executed, the algorithm was stuck in an endless loop, and never displayed anything! Here it is: 1:moveUp←+2 2: moveDown←−1 3: repeat 4: moveUp←moveUp−moveDown 5: moveDown←−(moveUp−moveDown) 6: until moveUp+moveDown≥100 7: write("The cat made it to the top!") What needs to be corrected in the algorithm above?

+qs on iipad and recording