MAA algorithm flow chart Next angle Next angle helper(currAng + 1, currAng -1 helper(currAng + 1, non-decreasing) on non-decreasing) on UP (Decrement for sure, Run another Next DOWN Angle helper?) Next Angle helper(currAng, non-Find bounded above increasing) Find bounded above angle for Down angle for Up ie find greatest angle that has two 1s ie find greatest angle that has two 1s NO Symmetric Found Found processing as (1,0) Both direction UpMAA DownMAA Neither bounded below YES MAA found (0, 1)(1, 0) YES Stay@currAng Next angle helper (currAng, non-(0, 1)If bounded below (0, 0)decreasing) (1, 0)Next angle NO (0, 0)helper YES #Neither MAA found (0, \) or (0, \) Stay@currAng before this data entry YES If bounded below Next angle #One MAA found NO helperr(currAng-1, Current Angle with Any slip? non-increasing) current result (1, \) or (\,1) # One MAA found *Precondition: neither (1, 1) NO MAA not found, after YES Stay@currAng current result is added If bounded above for the direction First Slip not found Next angle NO nelperr(currAng + 1 YES NO non-decreasing) CurrAng + 2 <= Do 15? If bounded above bidirectionally NO YES NO Stay@currAng Stay@currAng Next angle helper(currAng + 1, non-decreasing)

Bounded Function (direction, angle, below OR above)

Given a certain direction, function that outputs if the current angle is bounded below or above by its adjacent angle (plus or minus +1, respectively), or even bounded by currAng itself eg. we are at angle 15 or 0. (Extreme cases)

Put it another way, check if we have two 0s @currAng+1 when bounded above, or two 1s

@currAng-1 when bounded below. Degree 15 and 0 are the upper and lower bound

Next Angle helper (non-negative or non-positive, start angle)

Non-negative or non-positive as inputs denote a direction of our angle adjustment eg. Non-negative means we may increment or stay

Execute when unbounded either downhill or uphill. The function will iterate over the result matrix to find an unfilled tuple behind or before as the next angle

Results with singular outcomes such as (0, 0), (1, 1), $(\setminus, 1)$, $(1, \setminus)$, $(0, \setminus)$ and $(\setminus, 0)$ could only make angle movement along singular direction, or angle remains unchanged.

Results with binary outcomes are a bit tricky, since it could go either down or up, depending on scenarios.

Non-increasing means <=; whereas non-decreasing means >=.