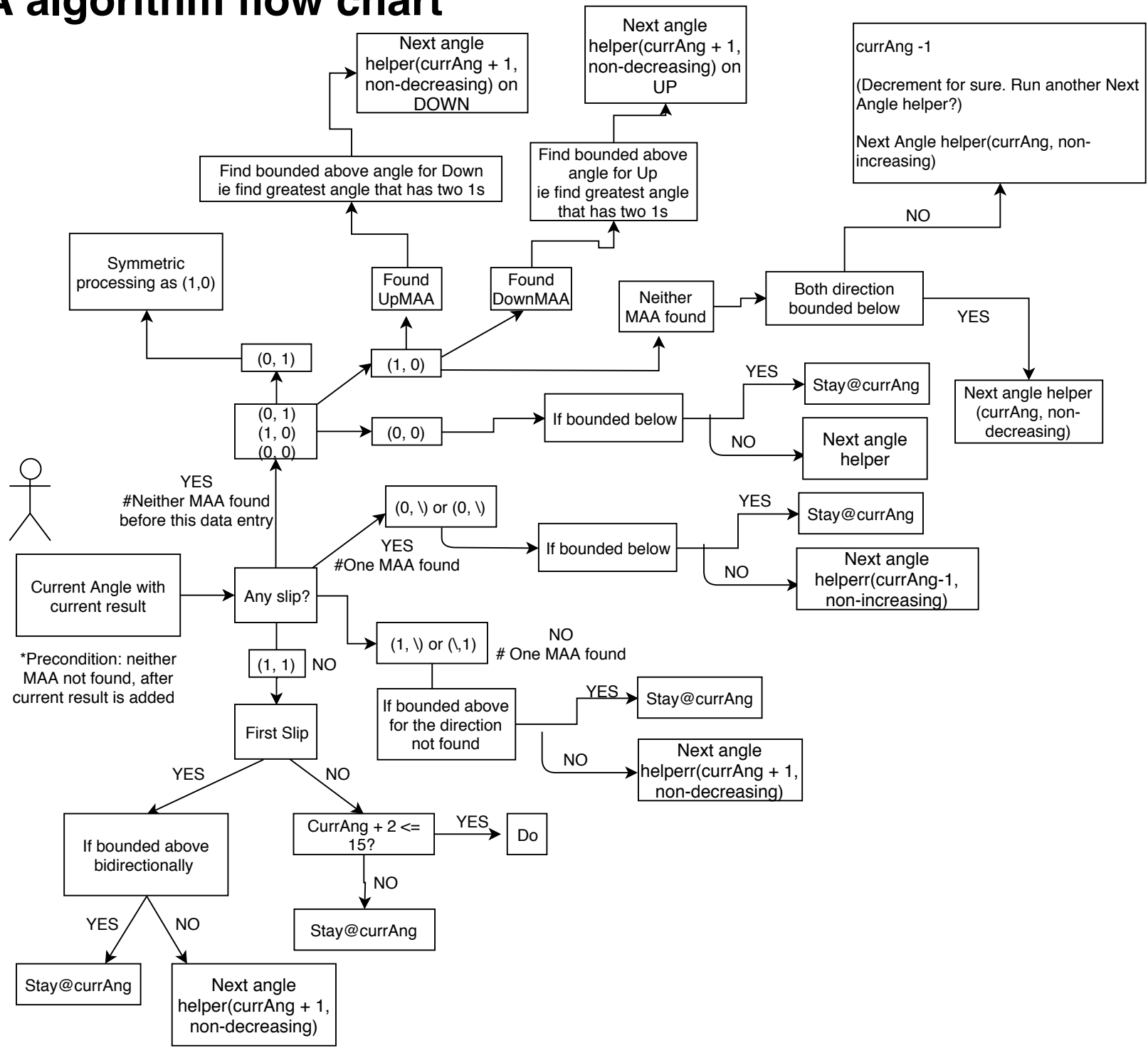# MAA algorithm flow chart

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), (\, 1), (1, \), (0, \) and (\, 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.

Flow chart nodes:

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