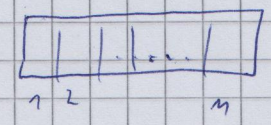


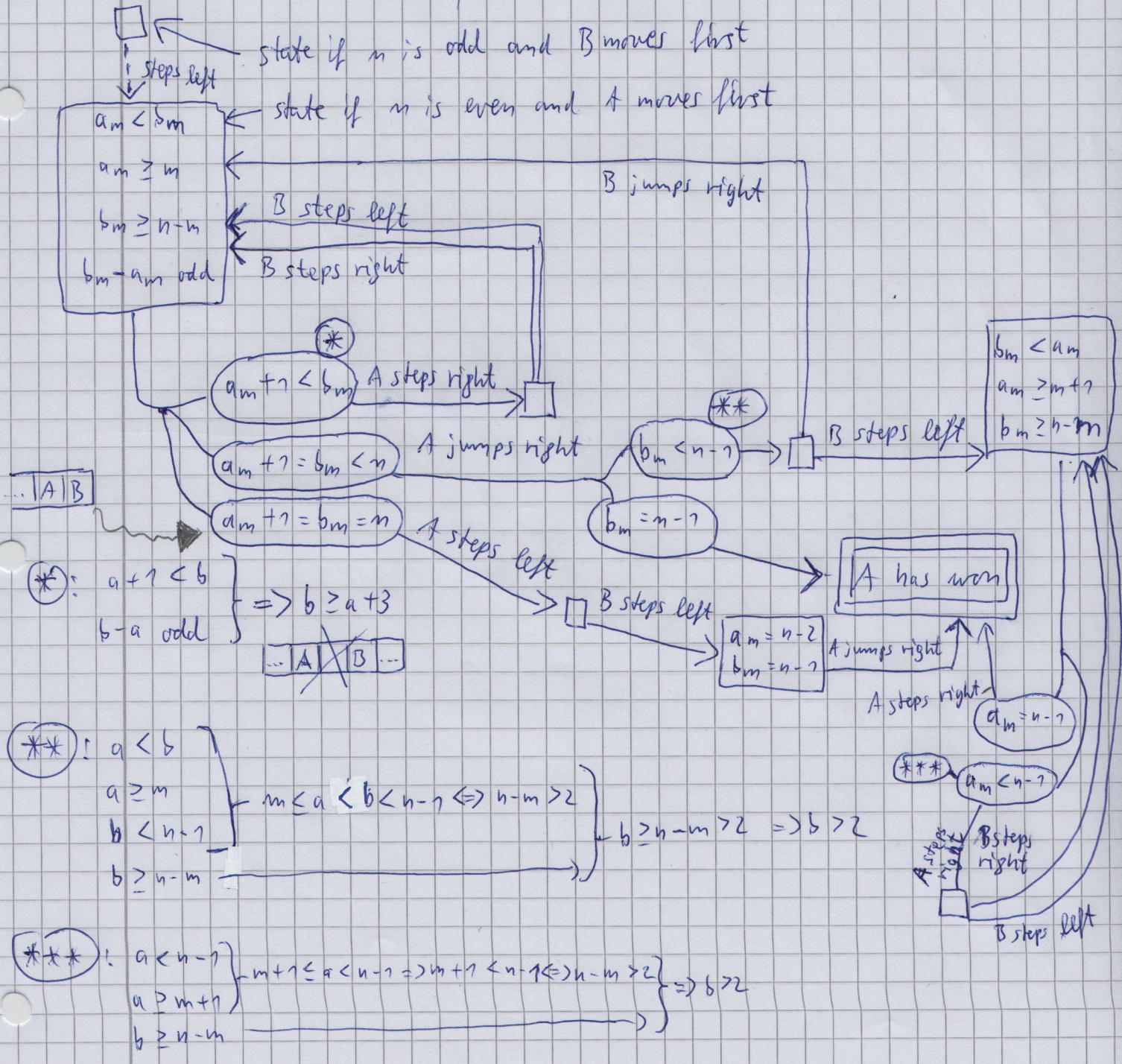
Ex 3.3) d) $n \geq 2$

Claim: A wins if n is even and A moves first
or if n is odd and B moves first.

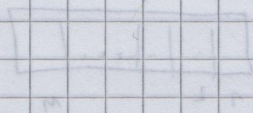
strategy: • move forward if possible
• move backward otherwise



Proof: Let: Before A does m -th move, A is at square a_m and B is at square b_m



Note: no infinite loops since \downarrow am increases by (at least) one in each cycle.



Strategy: move forward if possible.
move backward otherwise.

Proof: Let's suppose A does m-th move. A is at distance m and B is at distance 0.

State if m is odd and B moves first.
State if m is even and A moves first.



$$\left\{ \begin{array}{l} m < n \Leftrightarrow r-n < 0 \Leftrightarrow 0 > m-n \\ p \leq m-n \leq p \end{array} \right.$$

$$\left\{ \begin{array}{l} r-n > 0 \\ m < n \\ p \leq m-n \leq p \end{array} \right.$$