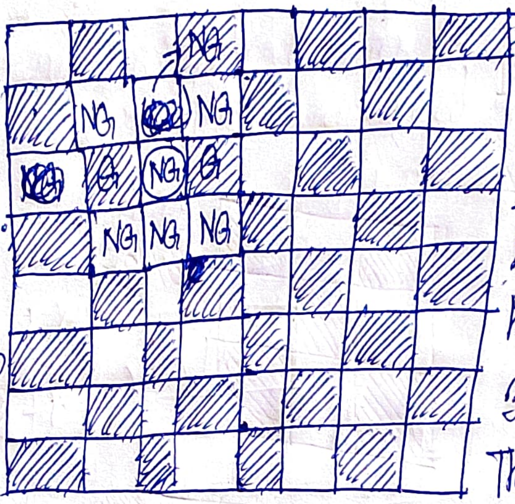
of atleast 1 tromino where other two squares are already green.

- Suppose to the contrary, there exists a strategy which gives rise to a coloring where there exists atleast one non-green square which is not part of any tromino having 2 green squares.



- I have marked the (NG) square which is not part of any tromino having 2 green squares. I tried having all the other NG squares be placed in atleast 1 tromino having 2 green squares. I reached 30 green squares through my coloring. This is a contradiction.
- So the given non-green square can't exist in a coloring having 32 green squares.
- ∴ Every non-green square shares atleast 1 tromino with 2 green squares, in a coloring having 32 green squares.
- $\boxed{\text{Flaw in argument:}}$ I have shown only one part. strategic proof
  - Generality of (NG) square posn. What if we can have more than 1 such square? Can we reach 32 square by not violating given condn.?

$\boxed{\text{Prob 11:}}$ Ten students solved a total of 35 problems in a math olympiad. Each problem was solved by exactly one student. There is atleast one student who solved exactly one problem, atleast one student who solved exactly two problems, and at least one student who solved exactly three problems. Prove that there is also atleast one student who has solved at least five problems.

- Condn: Each problem is solved by exactly 1 student.
- Since, ∃ 3 students who have ~~respectively~~ solved 1, 2 and 3 problems respectively, the remaining 7 students solve $35-(1+2+3)$ $= 29$ problems.