Algorithm:

And Introduction:

* Here we are storing the statement where the formula declaration is appearing with the respective premise line numbers.
* Using the line numbers we are generating a combined string to compare the original formula with the premises to verify the correctness of the proof.

And Elimination:

* Here in the andElimination function , using the formula declaration statement and the specified line number we are generating a new string ,utilizing iterative statements and stack, then comparing it with the truth statement present in the rule declaration line.
* Using this logic we are checking for \*e1 and \*e2 .

Or Introduction

* By adding the required characters to the premise line a string is obtained which is compared with the rule line statement for commonality
* Using this logic we are checking for +i1 +i2

Implications rules

* **Modus ponens:** using the formula declaration statement we extract the lines numbers of premises and
* Add the necessary combinations to them to finally compare it with the rule declaration statement for commonality.

**Modus tollens:**

* using the formula declaration statement we extract the lines numbers of premises and
* Add the necessary combinations to them to finally compare it with the rule declaration statement for commonality.
* Here we are also taking the help of stack to perform the necessary operations