

R-S method verification

❖ ***Introduction***

This is a Python based Flask application that can be used to solve and generate tree for any given goal formula and determine its validity as a Tautology using RS method.

❖ ***Execution Instructions***

1. Once you unzip the file, you will find “server.py” file which needs to be executed.
2. Run a command *python server.py*
3. This will create a localhost server.

```
* Serving Flask app "server" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Restarting with stat
* Debugger is active!
* Debugger PIN: 227-557-970
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

4. Open Google Chrome and hit the given URL as highlighted above. You would come across a page as shown below:

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Enter Argument Formula:

Available options: A, not(A), and(A, B), or(A, B), if(A, B)(A->B), iff(A, B)(A<->B)

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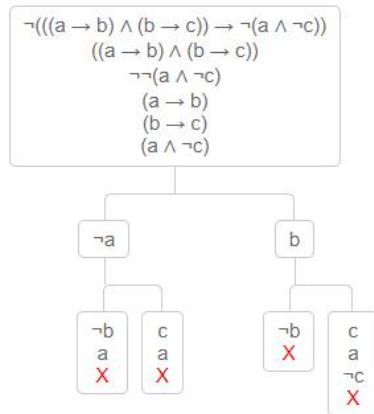
5. Enter the Formula which you need to evaluate in the text box and hit submit. Below are some examples to understand the format of the formula you need to enter in the text box.

<i>Formula to Evaluate</i>	<i>Formula to Enter in the text box</i>
$((A \rightarrow B) \rightarrow A) \rightarrow A$	if(if(if(A,B),A),A)
$\neg(((a \rightarrow b) \wedge (c \rightarrow b)) \rightarrow \neg(a \wedge \neg c))$	(if(and(if(a,b),if(c,b)),not(and(a,not(c)))))
$\neg(((a \rightarrow b) \wedge (b \rightarrow c)) \rightarrow \neg(a \wedge \neg c))$	(if(and(if(a,b),if(b,c)),not(and(a,not(c)))))
$\neg(((a \rightarrow b) \vee (b \rightarrow c)) \rightarrow \neg(a \wedge \neg c))$	(if(or(if(a,b),if(b,c)),not(and(a,not(c)))))

❖ Execution Results:

If the Formula is a Tautology, the below output will be reflected.

Argument is a Tautology!

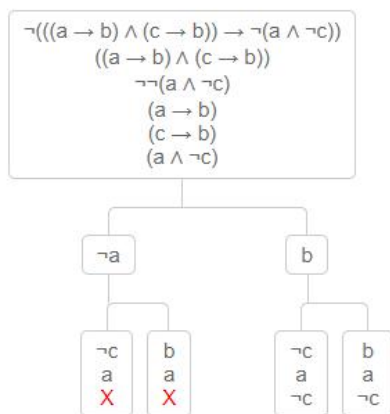


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If the Formula is not a Tautology below output will be reflected.

Argument is not a Tautology!



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