

Equation Simplification

You will be given a JSON file as an input. This file will contain a equation in a structured format like this:

```
{
  "op": "equal",
  "lhs": {
    "op": "add",
    "lhs": 1,
    "rhs": {
      "op": "multiply",
      "lhs": "x",
      "rhs": 10
    }
  },
  "rhs": 21
}
```

This particular example represents this equation:

$$1 + (x * 10) = 21$$

Your goal is to:

1. Parse the JSON into a structured format, and write a function to pretty-print the parsed equation, in a single line with brackets, like the below example. (*You can use a JSON parsing library*)

$$1 + (x * 10) = 21$$

2. Transform the expression so that you have 'x' on one side, and all the operations on the other side. In this example, a transformed expression can be: $x = (21 - 1) / 10$

You should then print this simplified expression

3. **Bonus:** Evaluate the expression on the other side and find the value of 'x'.

For our input files, assume that 'x' is always solvable.

Notes:

- The operations possible are: add, subtract, multiply, divide, and equal
- Each operation will have a LHS and a RHS. The LHS / RHS of a operation can be:
 - another operation,
 - Or a fixed number,
 - Or a variable reference
- The input files will be limited to have the following characteristics:
 - Top level operation will always be 'equal'
 - RHS will always be a fixed number
 - LHS can be complex. But there will only be a single variable reference (x) that occurs somewhere in the LHS. All other leaf nodes will be fixed numbers.