

# Issue: Unexpected Escape Characters (Backslash '\') In Comby-Python Output

## Environment

- **OS:** Linux (Windows Subsystem for Linux)
- **Language:** Python3
- **Frequency:** Always
- **Steps to reproduce:** Run this python3 code from terminal

```
from comby import Comby
comby = Comby()
source = " if 'charset\' in response.headers.get(\"Content-Type\", \"\")\n"
lhs = ":[ spaces]:[a]:[newline~[\n]]"
rhs = ":[spaces]:[a]:[newline]:[spaces]break;:[newline]"
for match in comby.matches(source, lhs, language=".py"):
    environment = dict()
    mutant = ""
    for entry in match.environment:
        environment[entry] = match.environment.get(entry).fragment
        mutant = comby.substitute(rhs, environment)

print(f"Original Source:\n{source}")
print(f"Comby Output:\n{mutant}")
```

### • Expected Output:

```
Original Source:
if 'charset' in response.headers.get("Content-Type", "")

Comby Output:
if 'charset' in response.headers.get("Content-Type", "")
break;
```

### • Actual Output:

```
Original Source:
if 'charset' in response.headers.get("Content-Type", "")

Comby Output:
if 'charset' in response.headers.get(\"Content-Type\", \"\")\n break;\n
```

- **Debug Trace:** The JSON output from call to `comby.matches(source, lhs, language=".py")`

```
[{'range': {'start': {'offset': 0, 'line': 1, 'column': 1}, 'end': {'offset': 58, 'line': 2, 'column': 1}}, 'environment': [{'variable': 'a', 'value': 'if \'charset\' in response.headers.get(\\\"Content-Type\\\", \\\"\\\")', 'range': {'start': {'offset': 1, 'line': 1, 'column': 2}, 'end': {'offset': 57, 'line': 1, 'column': 58}}}], {'variable': 'newline', 'value': '\\n', 'range': {'start': {'offset': 57, 'line': 1, 'column': 58}, 'end': {'offset': 58, 'line': 2, 'column': 1}}}, {'variable': 'spaces', 'value': ' ', 'range': {'start': {'offset': 0, 'line': 1, 'column': 1}, 'end': {'offset': 1, 'line': 1, 'column': 2}}}], 'matched': ' if \'charset\' in response.headers.get(\\\"Content-Type\\\", \\\"\\\")\\n'}]
```

In the json object `'matched'`

- Single-quoted string **is as-it-is**
- One extra backslash **for** double quotation marks
- One extra backslash **for** linebreak