

Shakespeare CTF – Official Writeup

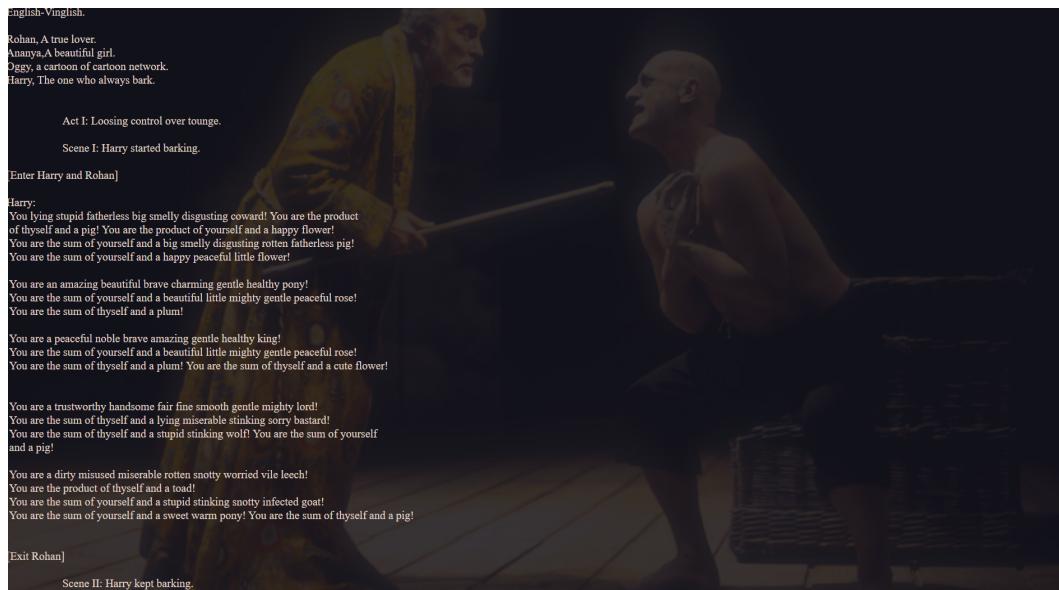
Challenge Name: The False Soliloquy

Category: Misc / Esoteric Programming Language

Difficulty: Medium

Step 1: Executing the Provided Code

The given Shakespeare Programming Language (SPL) source code is executed using the online interpreter available at <https://esolangpark.vercel.app/ide/shakespeare>. Running the code initially produces theatrical dialogue but does not directly reveal the flag.



Step 2: Normalizing Character Names and Forcing Output

The source code contains unauthorized character names not supported by the Shakespeare interpreter. These names must be replaced with valid characters. Additionally, multiple arithmetic computations are performed internally without printing their results. By inserting the statement *Speak your mind!* multiple times, the hidden values are forced to print.

The screenshot shows the Esolang Park Shakespeare interface. The top navigation bar includes tabs for "Esolang Park" and "Shakespeare". On the right, there are buttons for "Run code" with a play icon, a timer set to 20 ms, and a help icon. A link "Read the esolang notes →" is also present.

Code Editor:

```

103
104      Scene VIII: Hamlet continues speaking.
105
106  Hamlet:
107  Thou art the product of the square of a beautiful rich king and the sum of a
108  beautiful rich king and the sum of a brave lord and a flower! Speak your mind!
109
110      Scene IX: Hamlet continues speaking.
111
112  Hamlet:
113  Thou art the difference between thyself and the cube of a brave lord! Speak your mind!
114
115      Scene X: Hamlet continues speaking.
116
117  Hamlet:
118  Thou art the sum of a flower and the product of a brave lord and the square of
119  the sum of a beautiful rich king and a flower! Speak your mind!
120
121      Scene XI: Hamlet continues speaking.
122
123  Hamlet:
124  Thou art the product of a brave lord and the sum of thyself and the sum of
125  a beautiful rich king and a brave lord! Speak your mind!
126
127 [Exit Romeo]
128
129
130      Act III: The Final words.
131
132      Scene I: Hamlet last words.
133
134 [Enter Romeo]
135
136  Hamlet:
137  You are the cube of the sum of a beautiful rich king and a flower! Speak your mind!
138
139 [Exeunt]

```

Visualization:

The stage is empty

Romeo: 125
Juliet: 123
Ophelia: 0
Hamlet: 0

User Input:

Enter program input here...

Execution Output:

hacks{H3ll0_c1ph3r}

Step 3: Retrieving the Flag

After correcting the character names and adding the required output statements, the program is executed again. The output now clearly reveals the flag.

Flag: hacks{H3ll0_c1ph3r}