

Part 1 Documentation

Flag String: **34gdfh340234**

Methodology to Bypass Authentication: For simple adjustments to print the flag string regardless of what username and password are input, I modified the comparisons to effectively make the validation checks for the username and password dysfunctional. Essentially, each code block (involving the user input) of the form

```
mov     dl, [e?x]
cmp     dl, [e?x]
```

I made both '?' equal so the test compares each value to itself → always true.

Therefore, I did not add or delete instructions, simply modify some of the register operands.

Instructions Changed: Format (Address: Original → **New Instruction**)

- 1) (004B10D5: mov dl, [eax] → **move dl, [ecx]**)
- 2) (004B10DF: mov dl, [eax+1] → **move dl, [ecx+1]**)
- 3) (004B1106: mov dl, [ecx] → **mov dl, [eax]**)
- 4) (004B1110: mov dl, [ecx+1] → **mov dl, [eax+1]**)