COMP435 In-Class Problems 10/15/25 Name: _____

Question 1: Heartbleed In the heartbeat protocol, the server echos a user-provided string back to the user. The lesson from the heartbleed vulnerability is:

- ◯ the server should never echo back a user-provided string
- ◯ the server failed to sanitize the user-provided string
- ◯ the server failed to check the length of the user-provided string
- ◯ the server should never respond to a stale heartbeat request

Question 2: Integer Overflow Fix the integer overflow error.

```
(1) int handle_login(userid, passwd) {
(2)   attempts = attempts + 1; //4-bit signed int
(3)   if (attempts <= 6) { //max attempts allowed is 6

(4)     if passwdValid(userid, passwd) {

(5)         attempts = 0;
(6)         return (1);
          }
      }
(7)   return (0); //what happens on the next attempt?}
```

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Why does it lock out the user? What kind of attack is it protecting against? An online guessing attack or offline guessing attack?