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1 // Check username and password and allow or deny access.
2 // Username name in this case is a valid email address ie has the @ character in a valid position
3 // Allows three attempts for password.
4 // Password is visible on the screen for this program.
5
6 import javax.swing.JOptionPane;
7
8 public class CriticalFour
9 {
10
11     public static void main (String[]args)
12     {
13         String username = "bob@gmail.com";
14         String passwordActual = "NOT_password_only";
15         String passwordTry = "";
16         int index = -1; // position of the @ character
17         int attempts = 1; // Only three password attempts.
18
19         // while loop to get a valid email address/username with the @ character in a valid position
20         while (index <= 0) // -1 is equivalent to not present. zero is first character.
21         {
22             username = JOptionPane.showInputDialog("Enter your email address/username");
23             username = username.toLowerCase(); // emails should not have upper case
24             index =username.indexOf("@");
25         }
26
27         if (index > 0)
28         {
29             // while loop to allow three attempts at the password
30             while (attempts <= 3)
31             {
32                 passwordTry = JOptionPane.showInputDialog("Enter your password. Attempt " + attempts);
33                 attempts = attempts + 1;
34
35                 if (passwordTry.equals(passwordActual))
36                 {
37                     attempts = 4; // Success, therefore no further attempts needed.
38                     System.out.println("Success");
39                 }
40                 else
41                     System.out.println("Denied");
42             } // end while loop
43         } // end outer if
44     } // end main
45 } // end class

```