

```
1 import components.simplereader.SimpleReader;
2 import components.simplereader.SimpleReader1L;
3 import components.simplewriter.SimpleWriter;
4 import components.simplewriter.SimpleWriter1L;
5
6 /**
7  * Checks to see if the password meets the requirements stated.
8  *
9  * @author Vaishnavi Kasabwala
10  *
11  */
12 public final class CheckPassword {
13
14     /**
15      * Private constructor so this utility class cannot be instantiated.
16      */
17     private CheckPassword() {
18     }
19
20     /**
21      * Checks whether the given String satisfies the OSU criteria for a valid
22      * password. Prints an appropriate message to the given output stream.
23      *
24      * @param s
25      *         the String to check
26      * @param out
27      *         the output stream
28      */
29     private static void checkPassword(String s, SimpleWriter out) {
30         int k = 0;
31
32         if (s.length() < 8) {
33             out.println("Password must contain at least 8 character.");
34             out.println("Password is rejected.");
35         } else {
36             if (containsUpperCaseLetter(s)) {
37                 k++;
38             } else {
39                 out.println("Password must contain an upper case letter.");
40             }
41             if (containsLowerCaseLetter(s)) {
42                 k++;
43             } else {
44                 out.println("Password must contain a lower case letter.");
45             }
46             if (containsDigit(s)) {
47                 k++;
48             } else {
49                 out.println("Password must contain a digit.");
50             }
51
52             if (k < 2) {
53                 out.println("Password is rejected.");
54             }
55         }
56     }
57 }
```

```
58  /**
59   * Checks if the given String contains an upper case letter.
60   *
61   * @param s
62   *         the String to check
63   * @return true if s contains an upper case letter, false otherwise
64   */
65  private static boolean containsUpperCaseLetter(String s) {
66      int i = 0;
67      while (i < s.length() && !Character.isUpperCase(s.charAt(i))) {
68          i++;
69      }
70      return i < s.length();
71  }
72
73  /**
74   * Checks if the given String contains a lower case letter.
75   *
76   * @param s
77   *         the String to check
78   * @return true if s contains a lower case letter, false otherwise
79   */
80  private static boolean containsLowerCaseLetter(String s) {
81      int i = 0;
82      while (i < s.length() && !Character.isLowerCase(s.charAt(i))) {
83          i++;
84      }
85      return i < s.length();
86  }
87
88  /**
89   * Checks if the given String contains a digit.
90   *
91   * @param s
92   *         the String to check
93   * @return true if s contains a digit, false otherwise
94   */
95  private static boolean containsDigit(String s) {
96      int i = 0;
97      while (i < s.length() && !Character.isDigit(s.charAt(i))) {
98          i++;
99      }
100     return i < s.length();
101 }
102
103 /**
104  * Main method.
105  *
106  * @param args
107  *         the command line arguments
108  */
109  public static void main(String[] args) {
110      SimpleReader in = new SimpleReader1L();
111      SimpleWriter out = new SimpleWriter1L();
112      /*
113       * Put your main program code here; it may call checkPassword as shown
114       */
115  }
```

```
115         out.println("Please enter a password:");
116         String s = in.nextLine();
117
118         checkPassword(s, out);
119
120         /*
121          * Close input and output streams
122          */
123         in.close();
124         out.close();
125     }
126
127 }
128
```