Lab – Java – Regular Expressions

Overview

Write an application that uses regular expressions.

Create Console Application

Create a new Java console application.

Simple Regular Expressions

Write and test some regular expressions. Test each regular expression on a string that will produce a true result and a string that will produce a false result.

- Match a one-character string where the character is d, e, f, g, or h.
- Match any one digit.
- Match a two-character string. The first character must be a lowercase letter and the second must be a digit.

Regular Expressions with Quantifiers

Write and test some regular expressions that use quantifiers. Test each regular expression on a string that will produce a true result and a string that will produce a false result.

- Match any number of any characters (only need a true result for this string)
- Match any number of digits.
- Match at least one digit.
- Match at least one digit followed by one lowercase letter followed by any number of any characters.
- Match a string that ends with the character q. There any be any number of any characters before it.

Write Regular Expressions

Use "77cd22" as the input string (you can hardcode it into the program). Write regular expressions for the following (show results on screen):

- Check that "77" has any number of characters following it.
- Check that "cd" has at least 1 digit directly before it (there can be any number of characters before these digits) and any number of digits directly following "cd" (there can be any number of characters after these digits).

- Check that there are at least 2 consecutive digits somewhere before "22". There can be any number of characters of any type following "22".

Write Password Checker Method That Uses Regular Expressions

Write a method named checkPassword that takes a password as a parameter. There should be code that uses a regular expression to check for a valid password. A valid password for this exercise should have the following properties:
- Starts with a capital letter.
- The capital letter must be followed by at least 1 digit.
- The digit(s) must be followed by at least 3 characters that are not word characters (not letters, not digits, not underscores).

The method should print a message on screen indicating whether or not the password is valid. Make sure to call checkPassword a few times in main for both valid and invalid passwords.