

Lab 4.5.7 Text manipulation: password validation

Objectives

Familiarize the student with:

- the idea of validating text values based on different text characteristics.

Scenario

Many services require authentication from their users. In order to ensure some level of security, a service may set some requirements for the password structure.

Write a program that will read a line of text as a password and validate it according to the rules below.

The password must:

- be eight characters long;
- have at least one upper-case letter;
- have at least one lower-case letter;
- have at least one digit;
- have at least one special character.

If any of these rules is broken, your program should inform the user why the password is not valid.

```
#include <string>
#include <iostream>

int main()
{
    std::string password;
    std::getline(std::cin, password);

    // manipulate the password here
    // and print validation result

    return 0;
}
```

Example input

Pas5w[]rd

Example output

The password is valid

Example input

qwerty

Example output

The password must be 8 characters long
The password must have at least one upper case letter
The password must have at least one digit
The password must have at least one special character