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#include <iostream>

#include <fstream>

#include <regex>

#include <string>


using namespace std;


// Function to check for PII and PHI patterns
void checkForSensitiveData(const string &text) {
    regex ssn_pattern(R"(\b\d{3}-\d{2}-\d{4}\b)"); // SSN: XXX-XX-XXXX
    regex email_pattern(R"([a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,})"); // Email
    regex credit_card_pattern(R"(\b\d{4}[- ]?\d{4}[- ]?\d{4}[- ]?\d{4}\b)"); // Credit Card (Visa, MasterCard)
    regex medical_record_pattern(R"(\bMRN\d{6}\b)"); // Medical Record Number
    regex icd10_pattern(R"(\b[A-Z]\d{2}\.\d{1,2}\b)"); // ICD-10 Code (e.g., A12.3)


    smatch match;

    if (regex_search(text, match, ssn_pattern)) {
        cout << "Potential SSN detected: " << match.str() << endl;
    }

    if (regex_search(text, match, email_pattern)) {
        cout << "Potential Email detected: " << match.str() << endl;
    }

    if (regex_search(text, match, credit_card_pattern)) {
        cout << "Potential Credit Card Number detected: " << match.str() << endl;
    }

    if (regex_search(text, match, medical_record_pattern)) {
        cout << "Potential Medical Record Number detected: " << match.str() << endl;
    }

    if (regex_search(text, match, icd10_pattern)) {

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        cout << "Potential ICD-10 Code detected: " << match.str() << endl;
    }
}
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int main() {
    string filename = "sample_data.txt"; // File containing test data
    ifstream file(filename);
    if (!file) {
        cerr << "Error opening file: " << filename << endl;
        return 1;
    }

    string line;
    while (getline(file, line)) {
        checkForSensitiveData(line);
    }

    file.close();
    cout << "DLP Scan Completed." << endl;
    return 0;
}
```