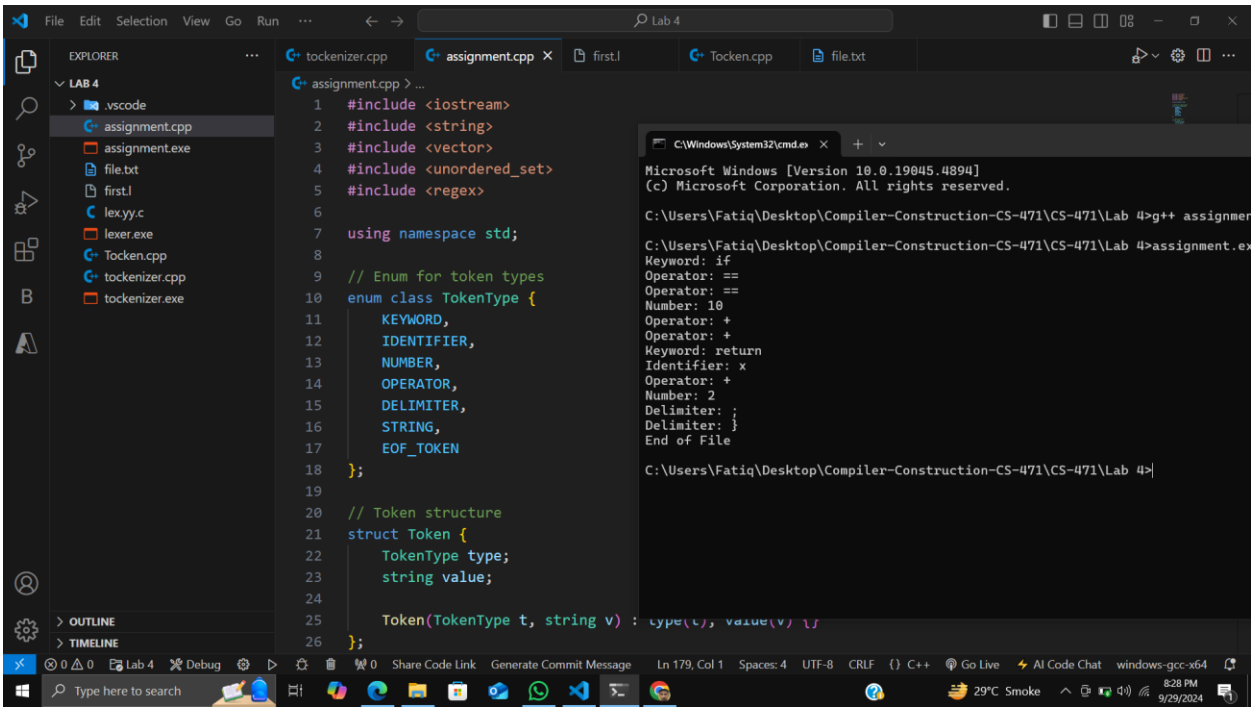
Registration No : 2021-CS-140

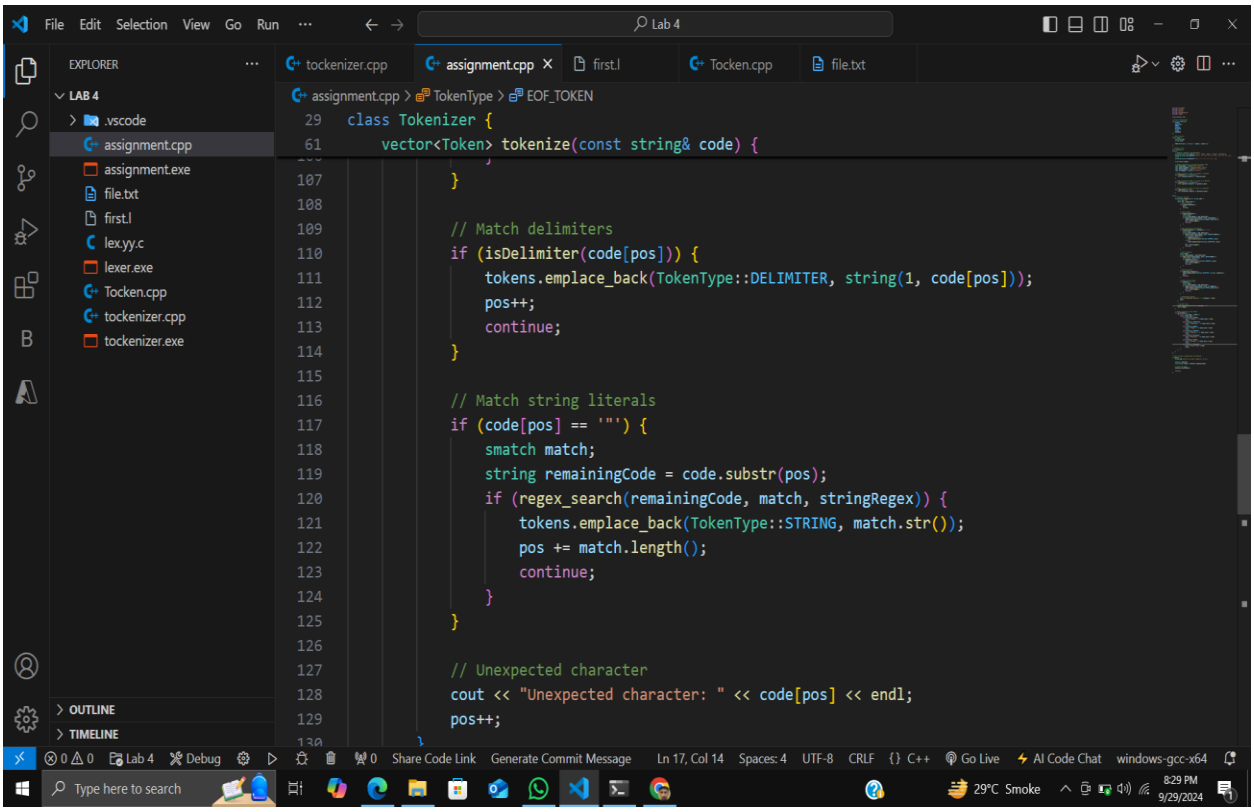
Instructor : Mr. Laeeq Khan Niazi

CS-471 Lab 4

Compiler Construction

By using best optimized data structures write the tokenizer for your own language.

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Lab 4
EXPLORER
tockenizer.cpp
assignment.cpp
first.l
Tocken.cpp
file.txt
LAB 4
.vscode
assignment.cpp
assignment.exe
file.txt
first.l
lex.yy.c
lexer.exe
Tocken.cpp
tockenizer.cpp
tockenizer.exe
OUTLINE
TIMELINE
assignment.cpp > TokenType > EOF_TOKEN
class Tokenizer {
vector<Token> tokenize(const string& code) {
}
// Match delimiters
if (isDelimiter(code[pos])) {
tokens.emplace_back(TokenType::DELIMITER, string(1, code[pos]));
pos++;
continue;
}
// Match string literals
if (code[pos] == '"') {
smatch match;
string remainingCode = code.substr(pos);
if (regex_search(remainingCode, match, stringRegex)) {
tokens.emplace_back(TokenType::STRING, match.str());
pos += match.length();
continue;
}
}
// Unexpected character
cout << "Unexpected character: " << code[pos] << endl;
pos++;
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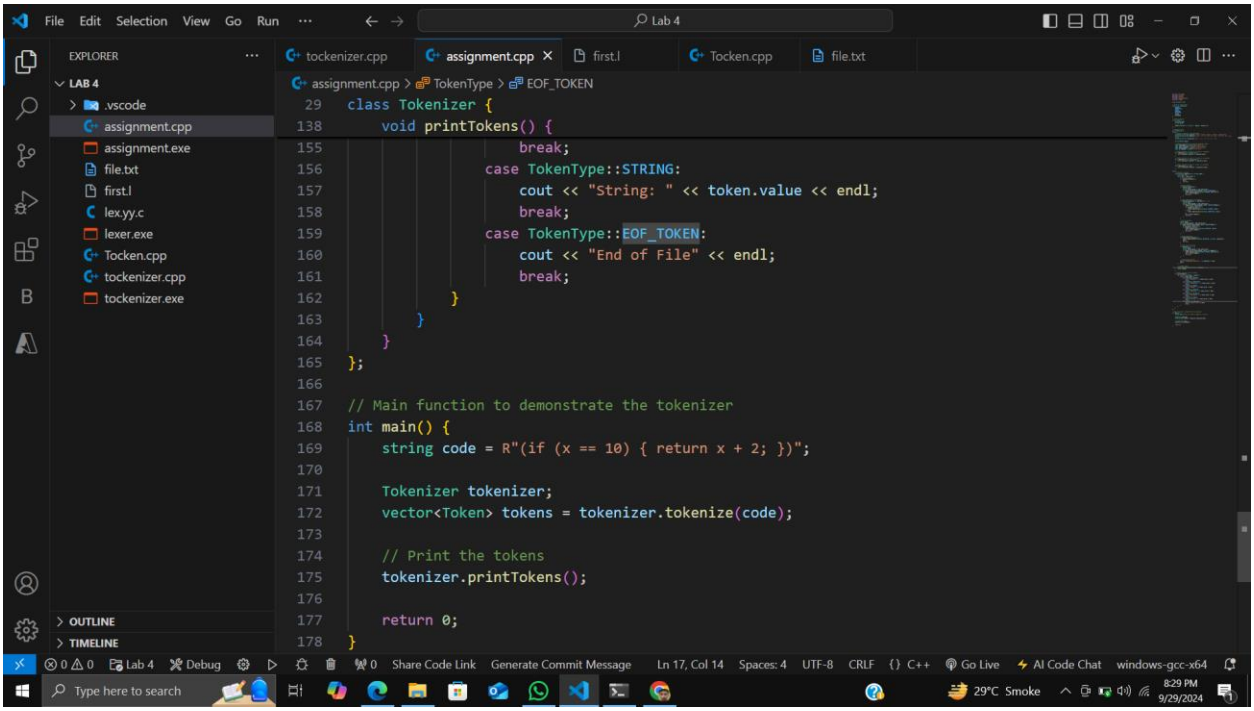
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tockenizer.exe
OUTLINE
TIMELINE
assignment.cpp > TokenType > EOF_TOKEN
class Tokenizer {
void printTokens() {
break;
case TokenType::STRING:
cout << "String: " << token.value << endl;
break;
case TokenType::EOF_TOKEN:
cout << "End of File" << endl;
break;
}
}
};
// Main function to demonstrate the tokenizer
int main() {
string code = R"(if (x == 10) { return x + 2; })";
Tokenizer tokenizer;
vector<Token> tokens = tokenizer.tokenize(code);
// Print the tokens
tokenizer.printTokens();
return 0;
}
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