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| **Total Marks:** | **04** |
| **Obtained Marks:** |  |

**Compiler Construction**

**Assignment # 01**

**Last date of Submission: March 7th, 2025**

**Submitted To: Mr. Safi Ullah**

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**Student Name: Ubaid Bin Waris**

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**Reg Number: 2212416**

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***Instructions****: Copied or shown assignments will be marked zero. Late submissions are not entertained in any case.*

Write a LEX/FLEX program to identify numbers, comments, text and commands (identifiers). Give the source code and the runtime screen with compilation and execution steps.

Test Data:

* 12432
* first\_no
* "Islamabad"
* #This is a Sample

**Note:**

1. Change the filename to your ID, e.g. 2073105.doc
2. Upload the .doc on Google Classroom.
3. Poor indentation and wrong format will result in deduction of marks.

**Solution**

**Code**

#include <iostream>

#include <regex>

using namespace std;

void analyzeToken(const string &token) {

// Regular expressions for different token types

regex numberRegex("^[0-9]+$");

regex identifierRegex("^[a-zA-Z\_][a-zA-Z0-9\_]\*$");

regex textRegex("^\"[^\"]\*\"$");

regex commentRegex("^#.\*$");

if (regex\_match(token, numberRegex)) {

cout << "Number: " << token << endl;

} else if (regex\_match(token, identifierRegex)) {

cout << "Command (Identifier): " << token << endl;

} else if (regex\_match(token, textRegex)) {

cout << "Text: " << token << endl;

} else if (regex\_match(token, commentRegex)) {

cout << "Comment: " << token << endl;

} else {

cout << "Unknown Token: " << token << endl;

}

}

int main() {

string input;

cout << "Enter tokens (Type 'exit' to quit):\n";

while (true) {

cout << "> ";

getline(cin, input);

if (input == "exit") break;

analyzeToken(input);

}

return 0;

}

**Output**

