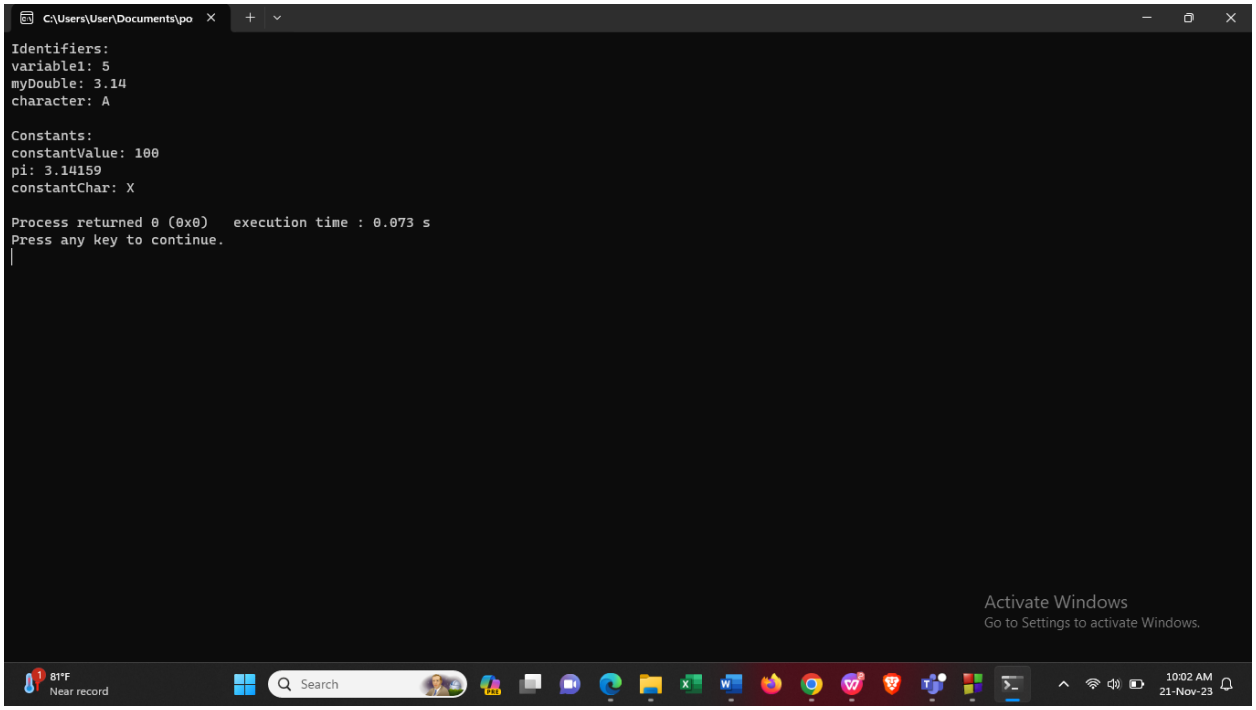
```cpp
#include <iostream>
using namespace std;

int main() {

    int variable1 = 5;
    double myDouble = 3.14;
    char character = 'A';


    int ifKeyword = 10;
    const int constantValue = 100;
    const double pi = 3.14159;
    const char constantChar = 'X';


    int sum = variable1 + 3;
    double product = myDouble * 2;
    char newChar = character + 1;


    cout << "Identifiers:" << endl;
    cout << "variable1: " << variable1 << endl;
    cout << "myDouble: " << myDouble << endl;
    cout << "character: " << character << endl;



    cout << "\nConstants:" << endl;
    cout << "constantValue: " << constantValue << endl;
    cout << "pi: " << pi << endl;
    cout << "constantChar: " << constantChar << endl;


    return 0;
}
```

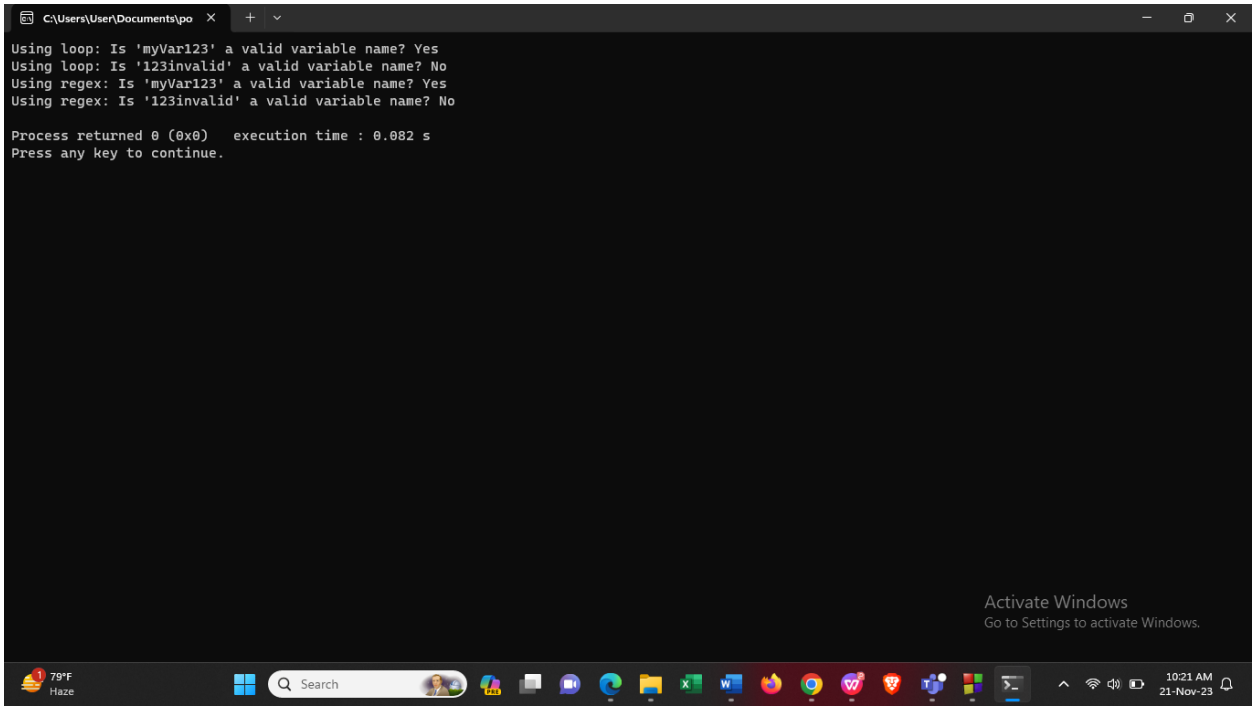


Code:

```
#include <iostream>
#include <cctype>
#include <cstring>
#include <regex>


bool isValidVariableNameLoop(const char* variableName) {
    if (variableName == nullptr || *variableName == '\0') {
        return false;
    }

    if (!isalpha(*variableName) && *variableName != '_') {
        return false;
    }

    for (int i = 1; i < strlen(variableName); ++i) {
        if (!isalnum(variableName[i]) && variableName[i] != '_') {
            return false;
        }
    }

    return true;
}
```

```
bool isValidVariableNameRegex(const char* variableName) {
    static const std::regex validVariableRegex("^[a-zA-Z_][a-zA-Z0-9_]*$");
    return std::regex_match(variableName, validVariableRegex);
}

int main() {

    const char* validVariable = "myVar123";
    const char* invalidVariable = "123invalid";


    std::cout << "Using loop: Is '" << validVariable << "' a valid variable name? "
              << (isValidVariableNameLoop(validVariable) ? "Yes" : "No") << std::endl;

    std::cout << "Using loop: Is '" << invalidVariable << "' a valid variable name? "
              << (isValidVariableNameLoop(invalidVariable) ? "Yes" : "No") << std::endl;


    std::cout << "Using regex: Is '" << validVariable << "' a valid variable name? "
              << (isValidVariableNameRegex(validVariable) ? "Yes" : "No") << std::endl;

    std::cout << "Using regex: Is '" << invalidVariable << "' a valid variable name? "
              << (isValidVariableNameRegex(invalidVariable) ? "Yes" : "No") << std::endl;

    return 0;
}
```

Output


C:\Users\User\Documents\po
Using loop: Is 'myVar123' a valid variable name? Yes
Using loop: Is '123invalid' a valid variable name? No
Using regex: Is 'myVar123' a valid variable name? Yes
Using regex: Is '123invalid' a valid variable name? No
Process returned 0 (0x0) execution time : 0.082 s
Press any key to continue.
Activate Windows
Go to Settings to activate Windows.
79°F
Haze
Search
10:21 AM
21-Nov-23