AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Faculty of Science and Technology

Report of

Compiler Design

Section: A

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Supervised by

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Report on

Program to Determine Whether the Given Input Is Identifier or Not

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Problem:

- **Write a program to determine whether the Given Input is Identifier or Not.**
- a. **The first character should be alphabet characters/underscore (A-Z, a-z, _)**
- b. **From the Second character should be alpha-numeric characters/underscore (A-Z, a-z, _ , 0-9)**

Code:

```cpp
#include <iostream>

#include <string>

using namespace std;


bool isInputValidIdentifier(string &input) {

    if (!((input[0] >= 'a' && input[0] <= 'z') || (input[0] >= 'A' && input[0] <= 'Z') || input[0] == '_'))

        return false;

    for (int i = 1; i < input.length(); ++i) {

        if (!((input[i] >= 'a' && input[i] <= 'z') || (input[i] >= 'A' && input[i] <= 'Z') ||

            (input[i] >= '0' && input[i] <= '9') || input[i] == '_'))

            return false;

    }

    return true;

}


void outputCheck(string &input){

    if (isInputValidIdentifier(input)){

        cout << "The input '" << input << "' is a valid identifier."<<endl;;

    }

    else{

        cout << "The input '" << input << "' is not a valid identifier."<<endl;

    }

}


int main() {

    string input;
```

```cpp
    cout << "Enter the string to check if it is a valid identifier: ";

    getline(cin,input);



    outputCheck(input);



    return 0;
}
```

Output Result:

```
"E:\8th semester\CD\Lab\Lab.  ✕   +  ∨                                 —   ☐   ✕

Enter the string to check if it is a valid identifier: variable123
The input 'variable123' is a valid identifier.

Process returned 0 (0x0)   execution time : 13.784 s
Press any key to continue.
```

```
"E:\8th semester\CD\Lab\Lab.  ✕   +  ∨

Enter the string to check if it is a valid identifier: 123name
The input '123name' is not a valid identifier.

Process returned 0 (0x0)   execution time : 13.688 s
Press any key to continue.
```

```
"E:\8th semester\CD\Lab\Lab.  ✕   +  ∨

Enter the string to check if it is a valid identifier: _variable
The input '_variable' is a valid identifier.

Process returned 0 (0x0)   execution time : 8.949 s
Press any key to continue.
```

```
"E:\8th semester\CD\Lab\Lab.  ✕   +  ∨

Enter the string to check if it is a valid identifier: int x
The input 'int x' is not a valid identifier.

Process returned 0 (0x0)   execution time : 4.537 s
Press any key to continue.
```

```
"E:\8th semester\CD\Lab\Lab.  ✕   +  ∨

Enter the string to check if it is a valid identifier: @variable
The input '@variable' is not a valid identifier.

Process returned 0 (0x0)   execution time : 2.900 s
Press any key to continue.
```