

## CSE 215L: Programming language II Lab

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Sec: 05

Lab - 11 [Class And Object], Summer-2020

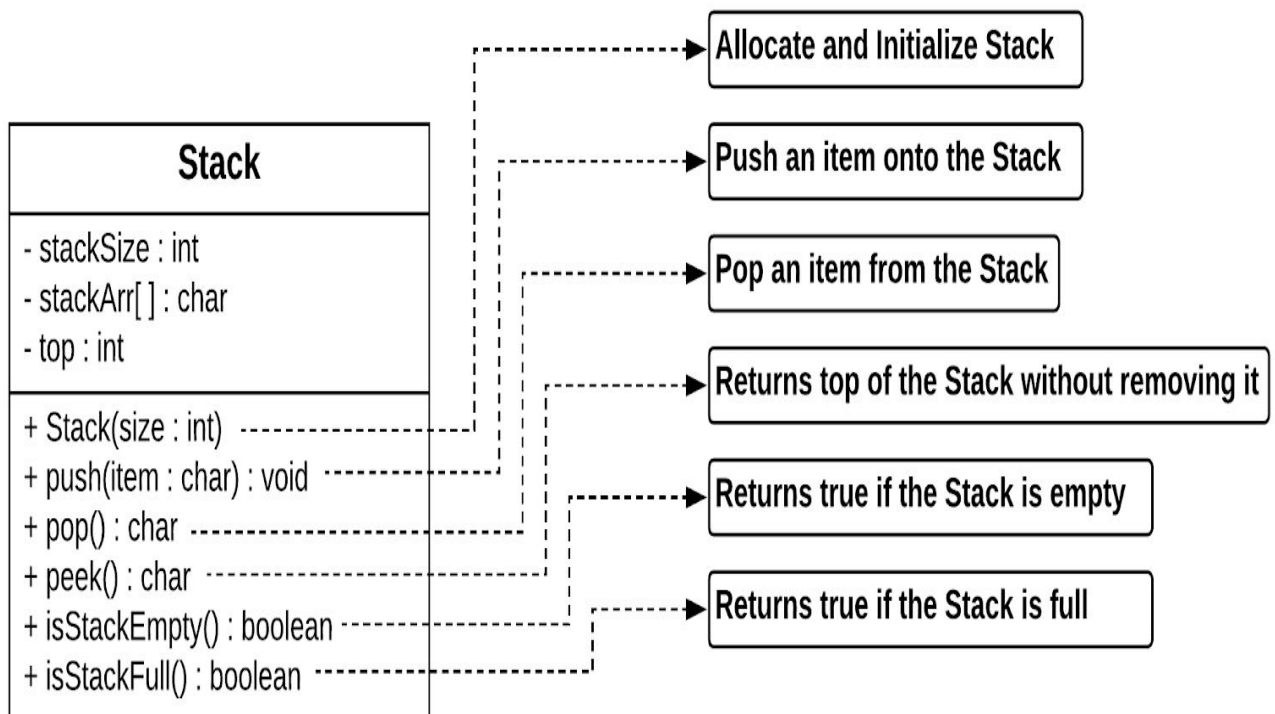
Lab Instructor: Md. Mustafizur Rahman

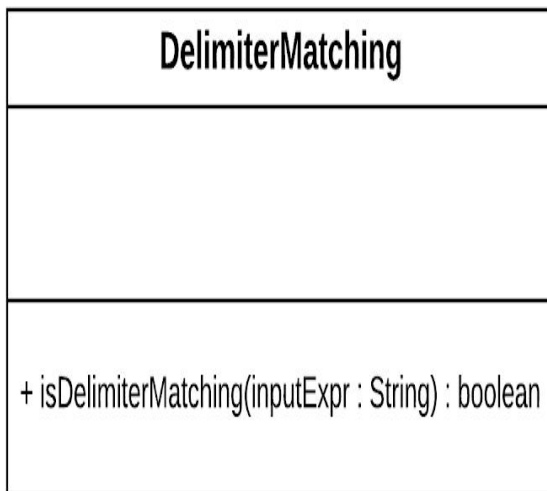
### Objective:

- To demonstrate how to define classes and objects
- To create a **Stack** class and to use it for delimiter matching

Write a program that verifies the delimiters in a line of text or expression typed by the user. In this case, we will take an arithmetic expression like  $a*(b+c)+[c/(a-b)]$ . Your program needs to validate the expression such that opening and closing brackets are proper or not which means the brackets are balanced or not.

You need to implement the following classes to verify the expressions in your program.





- Creates a Stack object and initializes the Stack using constructor.
- The size of the stack is determined by expression's length.
- Whenever an opening bracket is found, it is put onto the stack .
- Whenever a closing bracket is found, an item is popped from the top of the Stack to match that with the closing bracket.
- That means if an opening bracket is found for that type from the Stack, then it goes on checking the next one in a similar way until the string ends and stack is empty.

Now write the main class named **TestDelimiter** in which you will have the main method.

// Create an object of **DelimiterMatching** class

// Initialize a **String** variable with your expression

// Call the **isDelimiterMatching()** method using the object of **DelimiterMatching** class and see the result for that expression.

**Sample Output:**

Output:  
 {(a+b)\*(c+d)} == true  
 {(a+b)+[x\*(c+d)]} == true  
 Mismatch found: } at 15  
 {(a+b)+[x\*(c+d)]} == false