



Objective:

The objective of this lab is to get you some experience in processing strings character by character and in implementing stacks and queues in a class package.

The programming assignment:

In your lab05, replace instructor's Tokenizer class and MyStackQueue package with your own.

Requirements:

1. You must use a linked list to implement your queue.
2. You must use an array to implement your stack.
3. You must use the following frame work to implement your tokenizer.

```
class Tokenizer {
    private char [] Buf;
    private int cur;

    Tokenizer(String infixExpression) {
        Buf = infixExpression.toCharArray();
        cur = 0;
    }

    boolean moreTokens() {
        Skip blanks.
        return cur < Buf.length;
    }

    Token nextToken() {
        1. Skip blanks.

        2. if (cur >= Buf.length) return null;

        3. If the next character is a digit, keep reading until a non-digit is read.
           Convert the string of digits into an integer.

        String Digits = new String(Buf, start, len);
        int num = Integer.valueOf(Digits).intValue();
    }
}
```

Use num to create and return an operand.

4. Otherwise, use the next character to create and return an operator.

```
}  
}
```