

Tokenizing Strings

Tokenizing Strings

- Use `StringTokenizer` object to tokenize a string.
- Constructor:

```
public StringTokenizer(String str,  
                        String delim, boolean returnDelims)
```

Parameters:

`str` - a string to be parsed.

`delim` - the delimiters.

`returnDelims*` - flag indicating whether to return the delimiters as tokens.

* this parameter is optional.

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- If the `returnDelims` flag is true, then the delimiter characters are also returned as tokens. Each delimiter is returned as a string of length one.
- If the `returnDelims` flag is false, the delimiter characters are skipped and only serve as separators between tokens.

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- For example,

```
//Separate tokens with a space character, the  
//delimiter, which is not returned as a token.  
StringTokenizer tokenizer = new  
    StringTokenizer(expression, " ");
```

```
//Separate tokens with delimiters +,-,*,/, (,), or a  
//space character, and return the delimiter as a  
//token( a string of length one).  
StringTokenizer tokenizer = new  
    StringTokenizer(expression, "+-*/() ", true);
```

- See `StringSplitter.java`.

```

import java.util.Scanner;
import java.util.StringTokenizer;

/**
 * Tokenize an expression using specific delimiters or a sentence by space.
 * @author Qi Wang
 * @version 1.0
 */
public class StringSplitter {

    /**
     * Tokenize a user-entered input using specific delimiters or a space character.
     * @param args A reference to a string array containing command-line arguments
     */
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        String expression;
        StringTokenizer tokenizer;

        //Read an arithmetic expression
        System.out.print("Enter an arithmetic expression or a sentence: ");
        expression = input.nextLine();

        tokenizer = new StringTokenizer(expression, "()+-*/ ", true);

        while(tokenizer.hasMoreTokens()){
            System.out.print(tokenizer.nextToken() + " ");
        }

        System.out.println();

        input.close();
    }
}

```

Summary

- Introduction to Wrapper Classes
- Wrapper Classes
 - Numeric Data Types and the Character Class
- Tokenizing Strings:
 - The *StringTokenizer* Class