

CMSC 131 Fall 2004 Quiz 6 Solution

One possible solution

The method `count` runs through all the elements of the string array `str` and compares each against the length. It updates a counter `ct` for each string it finds that satisfies the condition.

The method `lessOrEqual` first calls `count()` to determine the number of elements that satisfy the condition, and then allocates an array `result` with this many elements. It maintains an index `nxt`, which points to the next available element of this array. Whenever we find an element that satisfies the length condition, we store it in the next position of `result` and increment `nxt`.

```
public class Util {

    public static int count( String[] str, int len ) {
        int ct = 0;
        for ( int i = 0; i < str.length; i++ )
            if ( str[i].length() <= len ) ct++;
        return ct;
    }

    public static String[] lessOrEqual ( String[] str, int len ) {
        int ct = count( str, len );
        String[] result = new String[ct];    // allocate result array
        int nxt = 0;                        // next available position
        for ( int i = 0; i < str.length; i++ ) {
            if ( str[i].length() <= len ) {
                result[nxt++] = new String( str[i] );
            }
        }
        return result;
    }
}
```