

Line breaks

Goal: find where to place line breaks in a paragraph to minimize “badness”:

This may be a
difficult
example.

$$\text{Badness} = 4^3 = 64$$

This may be
a difficult
example.

$$\text{Badness} = 2^3 + 2^3 = 16$$

$$\text{badness} = \sum (\text{max_length} - \text{line_length})^3$$

Subproblems

```
result, cost = lineBreaks(wlist, startCol, maxWidth)
```

1) No line break after first word

```
endCol = startCol + len(wlist[0])  
r1, c1 = lineBreaks(wlist[1:], endCol+1, maxWidth)  
r1 = wlist[0] + " " + r1
```

2) Line break after first word

```
r2, c2 = lineBreaks(wlist[1:], 0, maxWidth)  
r2 = wlist[0] + "\n" + r2  
c2 += (maxWidth - endCol)**3
```