Problem Set 4
Problem 1: Tracing list comprehensions

1-1

y	lc
0	[0,
1	[0,1,
2	[0,1,4,
3	[0,1,4,9,
4	[0,1,4,9,16]

1-2
global variables

x	y
4	2
4	1
3	1

local variables (ones that belong to mystery)

x	y	lc
2		
2	0	0
2	1	1
4		
4	0	0
4	1	1
4	2	2
4	3	0

output (the lines printed by the program)

```
4 2
4 1
3 1
```

Problem 3: Tracing list comprehensions and recursion

IMPORTANT: This heading should appear at the very top of the second page.

3-1

x	scored_vals
-2	[[4,-2]]
1	[[4,-2],[1,1]]
3	[[4,-2],[1,1],[9,3]]
-4	[[4,-2],[1,1],[9,3],[16,-4]]

3-2 value assigned to `bestpair`

```
[16,-4]
```

3-3 value returned by `mystery1`

```
-4
```

3-4

```
mystery2('sizes')
     s = 'sizes'
     result_rest = mystery2('izes') = ‘sezi’
     return sezi’

     mystery2('izes')
         s = 'izes'
         result_rest = mystery2(‘zes’) = ‘sez’
         return ‘sezi’

         mystery2(‘zes’)
             s = ‘zes’
             result_rest = mystery2(‘es’) = ‘se’
             return ‘sez’

             mystery2(‘es’)
                   s = ‘es’
                   result_rest = mystery2(‘s’) = ‘s’
                   return ‘se’

                   mystery2(‘s’)
                        s = ‘s’
                        base case
                        return ‘s’

                        mystery2(...)
                               s = …
                               result_rest = mystery2(...) = …
                               return ...
```

3-5

```
sezi
```