3 Musketeers

Solutions

Problem 2

a. The only equivalent to [3,5,3] from the list was 5: "3:(5:(3:[]))"

b.

1. The operation is not legal as it is an attempt to prepend a character with a list of characters (Can't append a list to a character with :).
2. The operation is legal.
3. The operation is not legal because the ":" operator dictates that for "a:b", a must be an element of type b (which is a list). Since both ohno and yikes are lists this is not legal.
4. The operation is not legal for the same reason as above, both are the same type so this is illegal.
5. The operation is legal. (To provide additional clarity to 3 and 4, in this example ‘o’ is an individual character, whereas yikes is a list of characters, and so this adheres to the format of element: [elements] which both 3 and 4 do *not* follow as they are the same type.
6. The operation is not legal as 1 is an integer, which cannot be appended to a character list (different types).

c. Generates "([3,4,7,5,8],[3,4,7,5,8])". back is assigned all elements except the first, while front is assigned the first element. The tuple is then generated in (1st, front:back). 1st obviously is the passed in list whereas front:back is just the tail prepended with the head (or the same list)

Problem 6

We considered conditionals and other elementary functions incorporated in a list comprehension but don't think there is a easy and direct way to achieve the function.