

iii)  $\text{map}(\text{map } h) \text{ xs} = [1, 2], [3, 4]$

impossible as  $\text{map}$  requires a return a list so  $\text{map } h$ , assuming  $h$  is a tuple of a function and a list else it will error, due to wrong argument, a list will be returned, so the outer call of  $\text{map}$  is passed a tuple  
 ↗ get  $\text{map} \& \text{map}$  the wrong way round!

iii)  $\text{map}(\text{map } h) \text{ xs} = [1, 2], [3, 4]$

~~from ML to Haskell~~  $\text{map } h \text{ xs} = \text{xs} + 1$ ;  $\text{from } h \text{ xs} = \text{xs} + 1$ ;  $\text{xs} = [1, 2], [2, 3]$   
 } ~~passed~~ (tested in ML to find solution)

iv)  $\text{map map 'qs} = [1, 2], [3, 4]$

impossible as  $\text{map}$  needs to be passed a tuple consisting of a function and a list and no tuple is passed to it.

v)  $\text{map map zs} = [1, 2], [3, 4]$

The inner call of  $\text{map}$  isn't given a function, so it cannot return a function. So to be passed to an outer call of  $\text{map}$ , so the outer call of  $\text{map}$  needs get arguments of the expected type passed to it.  
~~map is a list~~