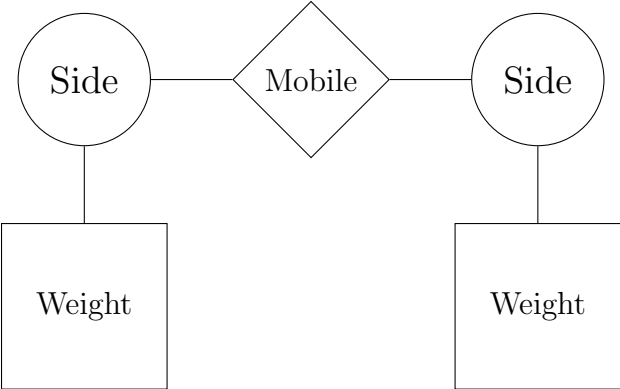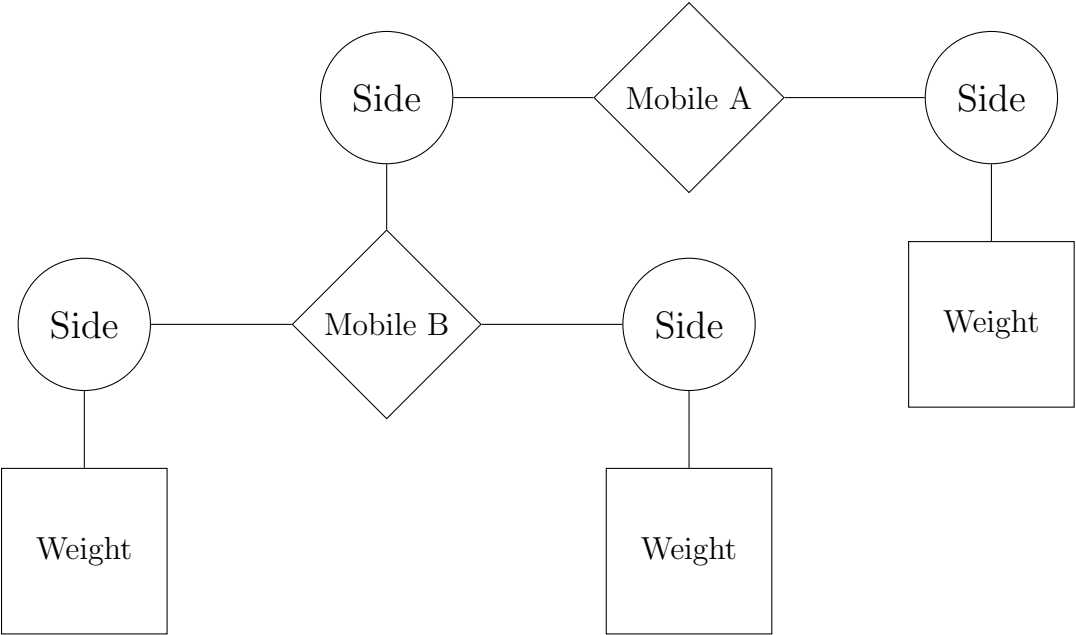# 1    Introduction

Here is a diagram for a mobile with only weights at the end of its sides.
Notice that sides are themselves objects in our representation of a mobile, which is why they're rendered with circles.



We can also have mobiles with other mobiles at the end of its sides, an example of which is given by the following:

Finally, we can get the two sides of a mobile by selecting the element to the left or right of a mobile, and get the mobile or weight hanging from a side by selecting the end of that side, as illustrated by the following:
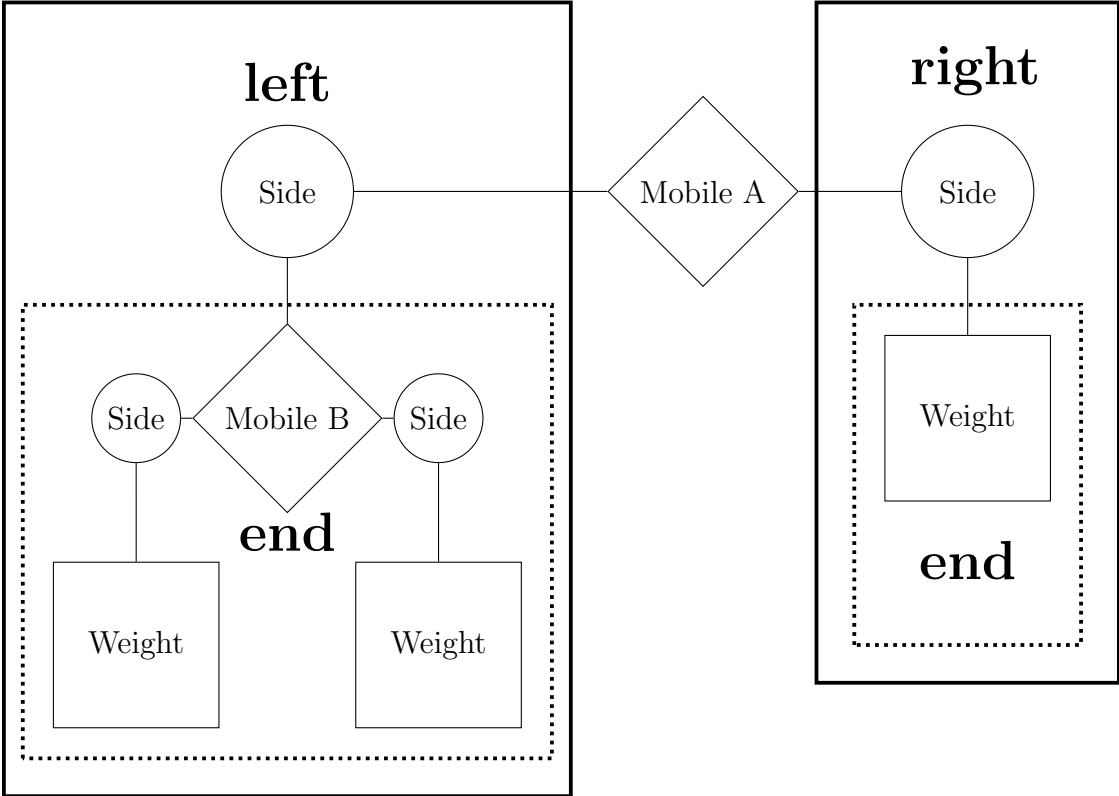
# 2 is_balanced

For this part, we care about the length of each side and the size of each weight, so we'll label sides and weights with these values in the remaining diagrams.

The following two mobiles are balanced: the torque (length of the side times total weight at the end) of both sides are equal, and all sub-mobiles are balanced.
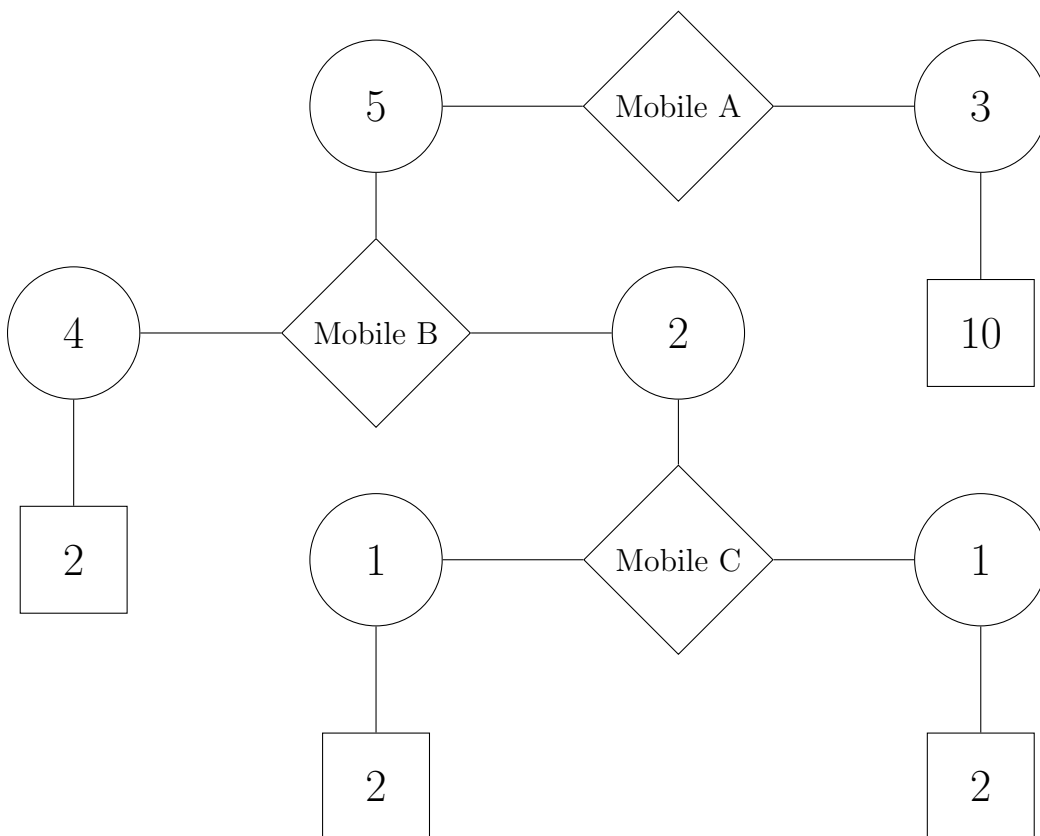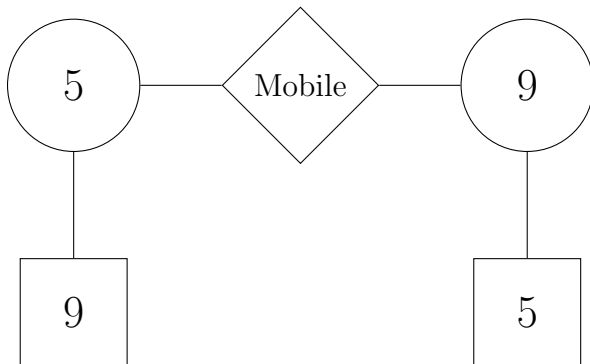
On the other hand, the following mobiles are not balanced.