Q1: Suppose that there exists two identity elements, e, e'. Then for any element $g \in G$, we have that

$$ge = ge' = g$$

Multiplying by g^{-1}, we get that

$$g^{-1}(ge) = (g^{-1}g)e = e = g^{-1}(ge') = (gg^{-1})e' = e'$$

We conclude that $e = e'$. Hence the identity element is unique.