Recap:
A binary function \( f \) is **associative** if \( f(f(x,y),z) = f(x,f(y,z)) \).
A binary function \( f \) is **commutative** if \( f(x,y) = f(y,x) \).

Worksheet problems:
1) Claim: a Finish Accumulator (FA) can only be used with operators that are **associative and commutative**. Why? What can go wrong with accumulators if the operator is non-associative or non-commutative?

2) For each of the following functions, indicate if it is associative and/or commutative.

   a) \( f(x,y) = x+y \), for integers \( x, y \)

   b) \( g(x,y) = (x+y)/2 \), for integers \( x, y \)

   c) \( h(s1,s2) = \text{concat}(s1, s2) \) for strings \( s1, s2 \), e.g., \( h(\text{“ab”}, \text{“cd”}) = \text{“abcd”} \)