Recall that an automorphism of a graph $G$ is a bijection $f$ from the vertex set to itself that preserves edges: that is, $f(u)$ is adjacent to $f(v)$ if and only if $u$ is adjacent to $v$. (Note that every graph has a trivial automorphism where $f$ is the identity.)

1. Calculate the number of automorphisms of the path $P_{100}$.

2. Calculate the number of automorphisms of the cycle $C_{100}$.

3. Calculate the number of automorphisms of the complete bipartite graph $K_{100,100}$.