

For this problem, the domain is the set of all instances of CNFSAT, and the codomain is the set of all pairs $\langle G, k \rangle$. And the codomain is the set of all instances of CLIQUE. In order to prove the mapping is not bijection, need to prove that it's not injective or surjective. And for this one, we'll prove that the surjective sub-property is not satisfied by the mapping, which means not every element in codomain can be mapped by the mapping. The mapping would always set k to the number of input clauses, and since, for a satisfying assignment to the CNFSAT instance, every clause C_i is satisfied, and that would mean that there exists at least one literal $l_{j,i}$ in C_i that is satisfied. And for these $l_{j,i}$ s, since they are satisfied and there exists at least one of them in each Clause, the number k is lower bounded by the number of clauses. This means that $\langle G, k-1 \rangle$, which is a valid instance of CLIQUE cannot possibly be outputted by the mapping. Since the mapping would output at least $\langle G, k \rangle$, hence the surjective sub-property is not satisfied and the mapping is not bijection.