Problem 2.1. ( 0.25 pt ) Prove that the following problem is in uniform NC: input: $n$ numbers of length $n$, written in binary (the input consists of $n^{2}$ bits); question: is there a subset of these numbers whose sum is exactly $n$ ?

Problem 2.2. (0.25 pt) Prove that the following problem is NP-complete: input: a context-free grammar $G$;
question: does $G$ allow a derivation in which all non-terminals are used?

