For each of the following languages over the alphabet $\Sigma = \{0, 1\}$, either prove the language is regular (by giving an equivalent regular expression, DFA, or NFA) or prove that the language is not regular (using a fooling set argument). Exactly half of these languages are regular.

1. $\{0^n1^n \mid n \geq 0\}$

2. $\{0^n1^nw \mid n \geq 0 \text{ and } w \in \ast\}$

3. $\{w0^n1^n x \mid w \in \ast \text{ and } n \geq 0 \text{ and } x \in \ast\}$

4. Strings in which the number of $0$s and the number of $1$s differ by at most 2.

5. Strings such that in every prefix, the number of $0$s and the number of $1$s differ by at most 2.

6. Strings such that in every substring, the number of $0$s and the number of $1$s differ by at most 2.