76 Express formally that natural n is the length of a longest palindromic segment in list L . A palindrome is a list that equals its reverse.

After trying the question, scroll down to the solution.

§ Define $pal\ i\ n$ to mean " $L[i;..i+n]$ is a palindrome" by the following axioms.

$$0 \le i \le \#L \ \Rightarrow\ pal\ i\ 0$$

$$0 \le i < \#L \ \Rightarrow\ pal\ i\ 1$$

$$0 \le i \le i+n+2 \le \#L \ \Rightarrow\ (pal\ i\ (n+2)\ =\ L\ i = L\ (i+n+1) \wedge pal\ (i+1)\ n)$$

Then we can say what we want as follows:

$$(\exists i\colon 0,..\#L-n\cdot\ pal\ i\ n) \wedge \neg(\exists i\colon 0,..\#L-n-1\cdot\ pal\ i\ (n+1)) \wedge \neg(\exists i\colon 0,..\#L-n-2\cdot\ pal\ i\ (n+2))$$