On the number of solutions of the equation $\frac{dx}{dt} = \sum_{j=0}^{n} a_j(t)x^j$, $0 \leq t \leq 1$ for which $x(0) = x(1)$

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The motivation of this talk is to discuss a kind of particular case of Hilbert's 16^{th} problem about the maximum number of limit cycles of a ODE on the real plane $\mathbb{R}^2$