Example of Adaptive Integration

Using the Dormand-Prince method, suppose that a user requests an error tolerance of $\varepsilon = 10^{-6}$, and suppose the time step attempted was $\Delta t = 0.01$ and that $e = |x_{n+1} - X_{n+1}| = 1.1 \times 10^{-6}$. Is the current time step accepted? What time step will be used next? Assume a safety factor of 0.9.

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