9.　$y(x) + A \displaystyle\int_a^x \left[e^{\lambda(x-t)} - 1 \right] y(t)\, dt = f(x).$

$1°$. Solution for $D \equiv \lambda(\lambda - 4A) > 0$:

$$y(x) = f(x) - \frac{2A\lambda}{\sqrt{D}} \int_a^x R(x-t) f(t)\, dt, \qquad R(x) = \exp\left(\tfrac{1}{2}\lambda x\right) \sinh\left(\tfrac{1}{2}\sqrt{D}\, x\right).$$

$2°$. Solution for $D \equiv \lambda(\lambda - 4A) < 0$:

$$y(x) = f(x) - \frac{2A\lambda}{\sqrt{|D|}} \int_a^x R(x-t) f(t)\, dt, \qquad R(x) = \exp\left(\tfrac{1}{2}\lambda x\right) \sin\left(\tfrac{1}{2}\sqrt{|D|}\, x\right).$$

$3°$. Solution for $\lambda = 4A$:

$$y(x) = f(x) - 4A^2 \int_a^x (x-t) \exp\left[2A(x-t)\right] f(t)\, dt.$$

Reference

Polyanin, A. D. and Manzhirov, A. V., *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.