

Exercise 14

Convert each of the following Fredholm integral equation in 9–16 to an equivalent BVP:

$$u(x) = x^4 + \int_0^1 K(x, t)u(t) dt, \quad K(x, t) = \begin{cases} 6t, & \text{for } 0 \leq t \leq x \\ 6x, & \text{for } x \leq t \leq 1 \end{cases}$$