## Saarland University

Faculty of Mathematics and Computer Science

## Assignment H5

 $\label{eq:constraint} \begin{array}{c} \mbox{Deadline for submission:} \\ \mbox{Thursday} \ , \ \mbox{June 19th}, \ 10:00, \ \mbox{at the } {\bf beginning} \ \mbox{of the lecture} \end{array}$ 

## Problem:

(8 points)

Consider the integral equation

$$u(x) = \mu \int_{-1}^{1} (xt^2 + x^2t)u(t) \, dt + f(x)$$

with  $f \in \mathcal{C}([-1, 1])$  and  $\mu \in \mathbb{R}$ . For which  $\mu$  does a unique solution exist ? Determine this solution.