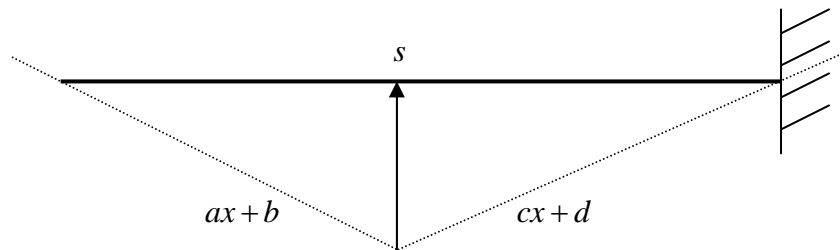2.

match boundary conditions

$a = 0$, $c\ell + d = 0$

Displacement continuity

$b = cs + d$

The difference in slope
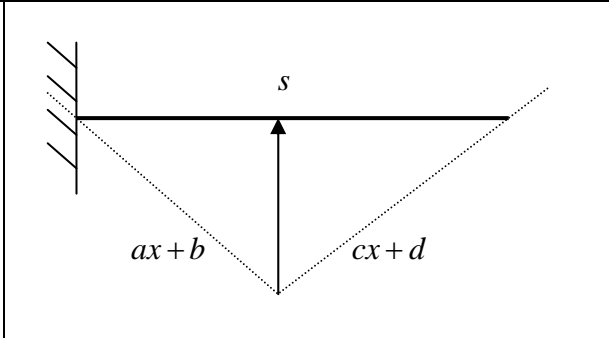
$c = 1$

and we can get

$d = -\ell$, $b = s - \ell$, $G(x,s) = \begin{cases} s - \ell, & 0 < x < s \\ x - \ell, & s < x < \ell \end{cases}$
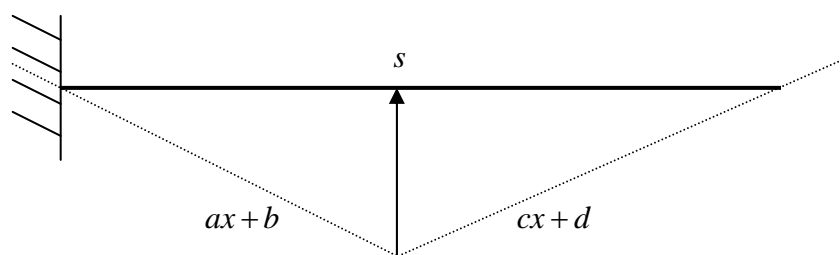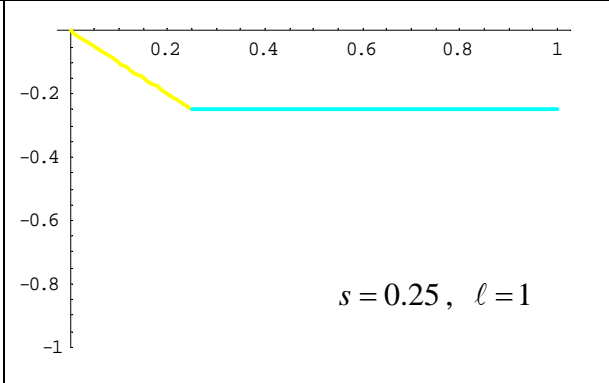

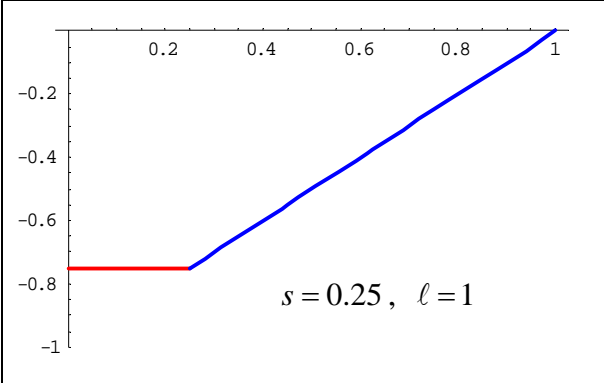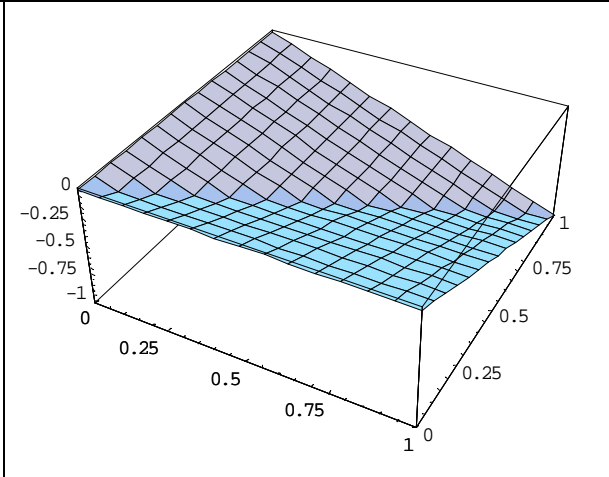similarly we can get Green function

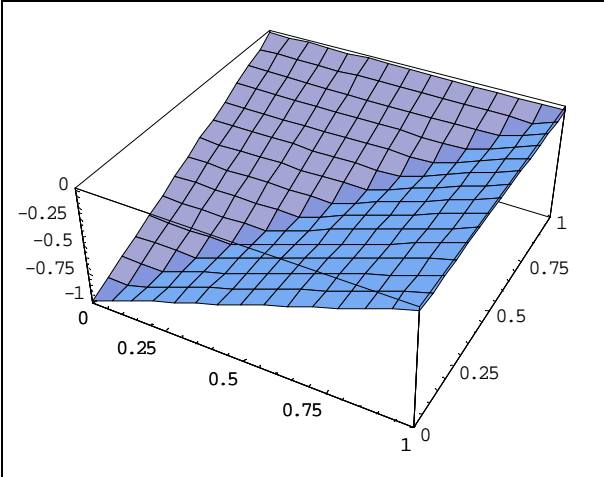$G(x,s) = \begin{cases} -x, & 0 < x < s \\ -s, & s < x < \ell \end{cases}$

s

$ax+b$ $cx+d$

s

$ax+b$ $cx+d$

2-D

$s = 0.25$, $\ell = 1$

$s = 0.25$, $\ell = 1$

3-D

Contour

BEM 2006 HW3 BY TASHI