Assignment -1

1. Solve $\frac{d}{dx}\left(x\frac{du}{dx}\right) = \frac{2}{x^2}$ $1 < x < 2$

   Boundary Conditions $-x\frac{du}{dx} = \frac{1}{2}$ at $x = 2$ and $u = 2$ at $x = 1$

   Solve using a) Point Collocation b) Sub-domain c) Galerkin and d) Least square approaches and compare the results.