8 Input 2

$$n_e = \text{number of elements } = 40$$

$$m = \text{number of nodes per element } = 3$$

$$D = \text{Diffusion Coefficient } = 6 * 10^{-12} \frac{m^2}{s}$$

$$c1 = \text{ concentration at left end denoted by } c^* \text{ in the problem } = 30 \frac{kg}{m^3}$$

$$Q_m = \text{ mass flow rate at right end denoted by } Q_m^* \text{ in the problem } = 1.2 * 10^{-9} \frac{kg}{m^2 s}$$

$$L = \text{length of the rod } = 1m$$

$$A(x) = \text{ area of the rod } = 3 + 4x$$

$$t = \text{tolerance for Gauss Seidel } = 0.001$$