$r\frac{d^2T}{dr^2} + \frac{dT}{dr} = 0$
$\frac{dT}{dr} = v(r)$
$\frac{dv}{dr} = -\frac{v(r)}{r}$
$v_{i+1} = v_i + hf(v_i, r_i) = v_i + h(-\frac{v_i}{r_i})$
$v_{i+\frac{2}{3}} = v_i + \frac{2}{3}hf(v_i, r_i) = v_i + \frac{2}{3}hf(-\frac{v_i}{r_i})$
$v_{i+1} = v_i + \frac{h}{4}[f(v_i, r_i) + 3f(v_{i+\frac{2}{3}}, r_{i+\frac{2}{3}})] = v_i + \frac{h}{4}[-\frac{v_i}{r_i} + 3(-\frac{v_{i+\frac{2}{3}}}{r_{i+\frac{2}{3}}})]$
$T_{i+1} = T_i + hf(r_i) = T_i + hv_i$
$T_{i+1} = T_i + \frac{h}{2}[f(r_i) + f(r_{i+1})] = T_i + \frac{h}{2}(v_i + v_{i+1})$
$\frac{dT_1}{dr} = -\frac{1}{r}\frac{dT_1}{dr}, \quad T_1(r_{int}) = T_{int}, \quad \frac{dT_1}{dr}(r_{int}) = 0$
$\frac{dT_2}{dr} = -\frac{1}{r}\frac{dT_2}{dr}, \quad T_2(r_{int}) = 0, \quad \frac{dT_2}{dr}(r_{int}) = 1$
$T(r) = T_1(r) + \frac{T_{ext} - T_1(r_{ext})}{T_2(r_{ext})}T_2(r)$