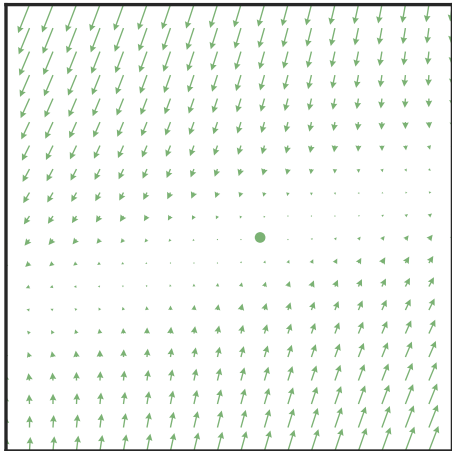$Ax_t + b - x_t$