Simple exponential smoothing

Forecasts generated with this method are a weighted average of the past values of the variable. The weights decline for older observations. The rationale is that more recent observations are more influential than older observations. The forecast for period $t+1$ calculated in period t is called F_{t+1}. Therefore, F_t is the forecast for period t calculated in period $t-1$. The forecast for period $t+1$ is,

$$F_{t+1} = \alpha A_t + (1-\alpha)F_t$$

which represents a weighted average of the actual value (A_t) and the forecast (F_t) of the actual value (calculated at $t-1$). The higher the value of alpha the more weight is given to current values (the shorter the *memory* of the process) .