

$$\vec{v}(t + \frac{\Delta t}{2}) = \vec{v}(t - \frac{\Delta t}{2}) + \frac{\Delta t}{m} \vec{F}(t)$$

$$\vec{r}(t + \Delta t) = \vec{r}(t) + \Delta t \vec{v}(t + \frac{\Delta t}{2})$$