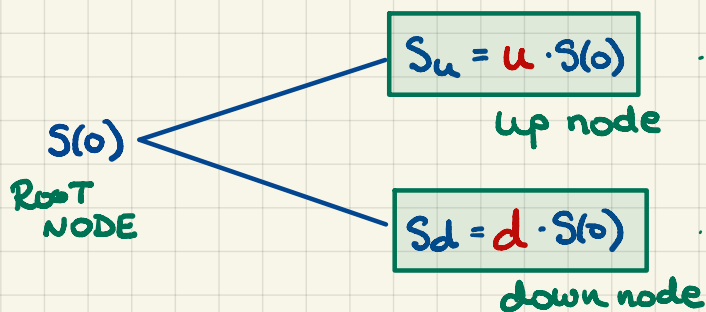
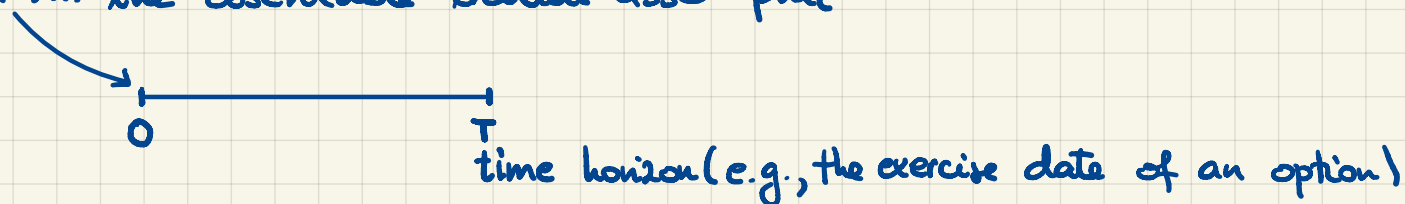


# The Binomial Asset Pricing Model.

$S(0)$ ... the observable initial asset price



By convention:

$$u > d$$

$u$ ... up factor  
 $d$ ... down factor

$h$ ... length of a single period

one period:  $\Rightarrow S(T) = S(h)$ ... a r.v. denoting the time  $T$  stock price w/ two possible values:  $S_u$  and  $S_d$

As a random variable: simple return =

$$\frac{S(T) - S(0)}{S(0)}$$

$$\bullet \frac{S_u - S(0)}{S(0)} = \frac{u \cdot S(0) - S(0)}{S(0)} = u - 1$$

$$\bullet \frac{S_d - S(0)}{S(0)} = \frac{d \cdot S(0) - S(0)}{S(0)} = d - 1$$