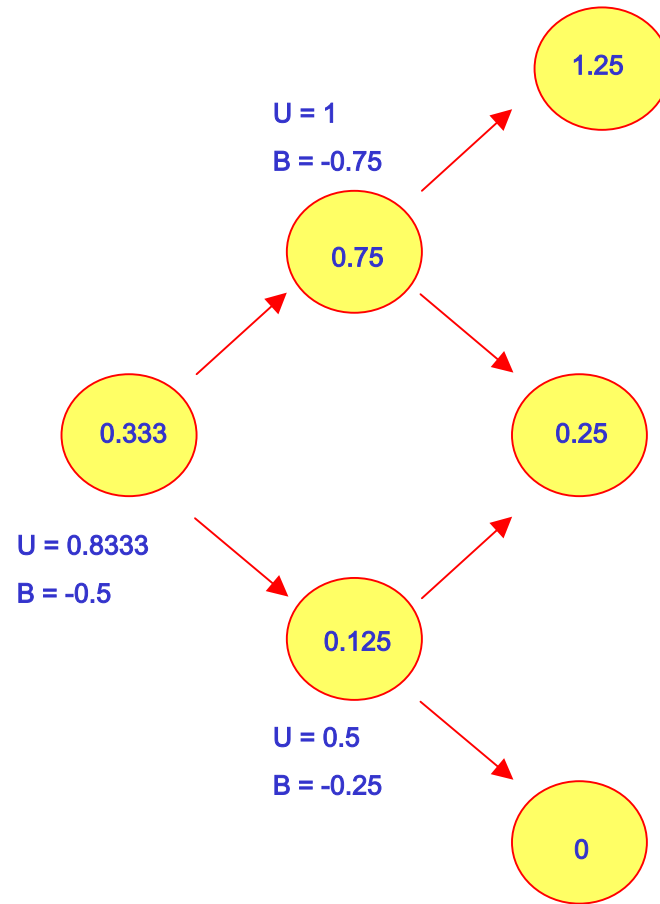
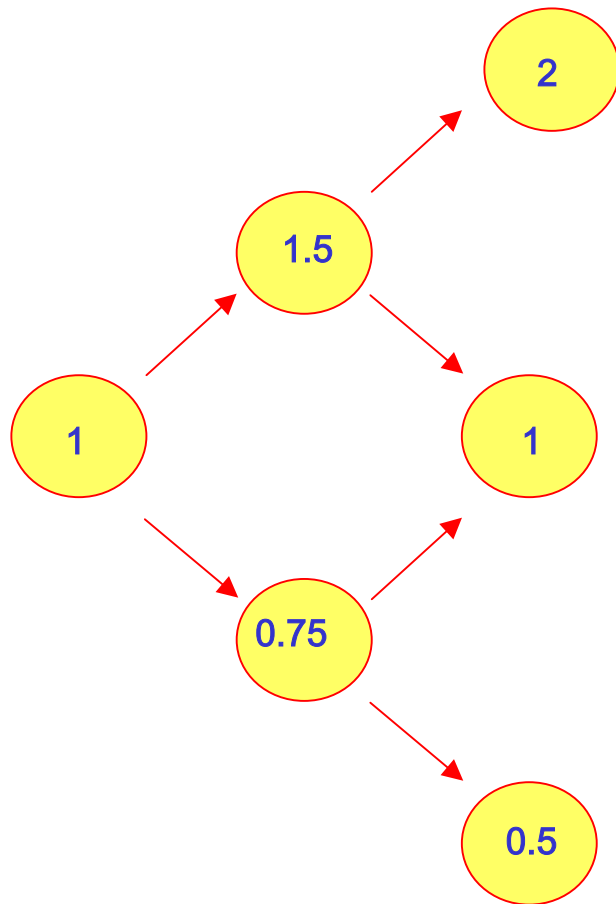
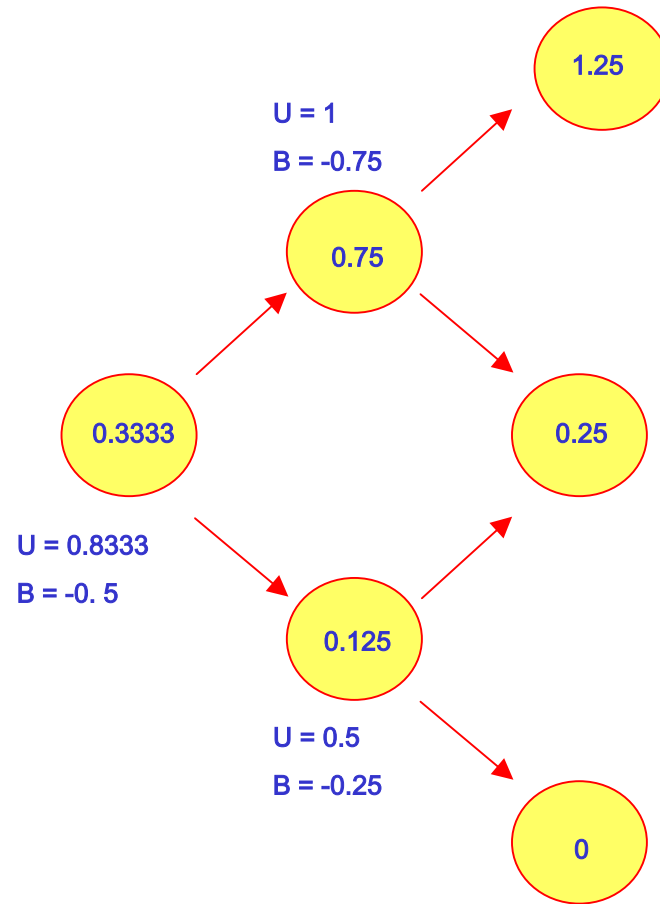
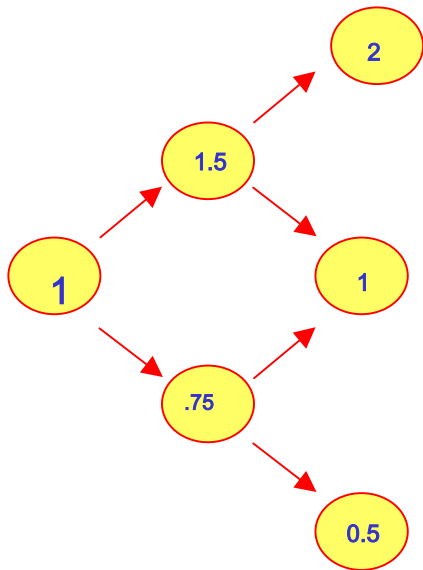


Pricing a European Cap (or Call)



Pricing an American Cap (or Call)

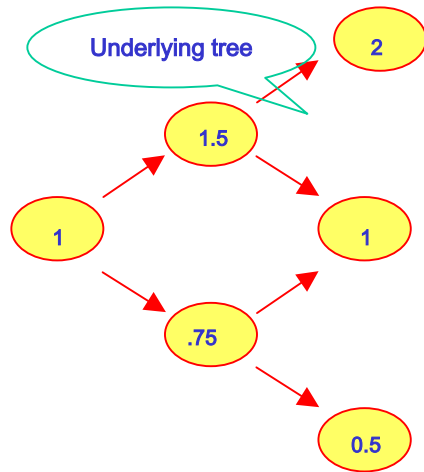


It is never optimal to exercise the option prior to maturity: its value always exceeds payoff.

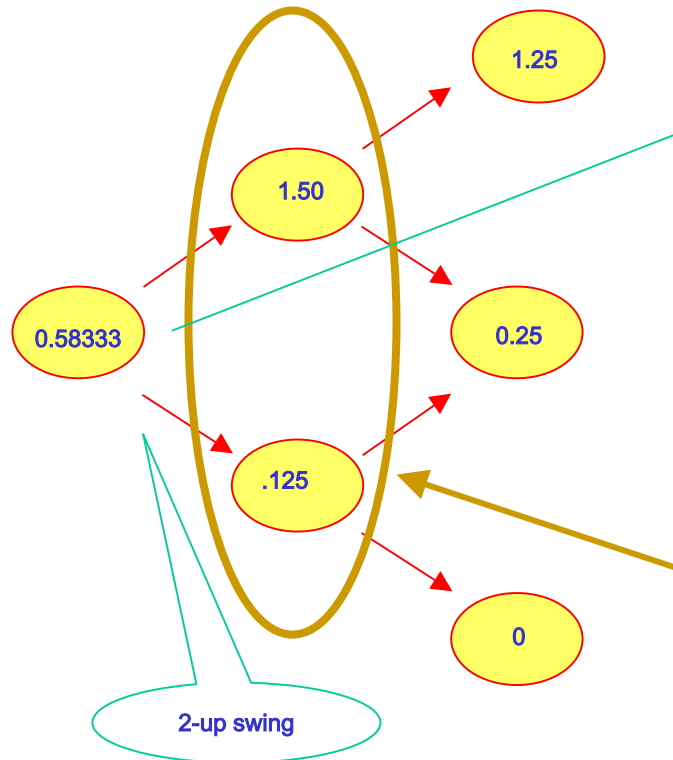
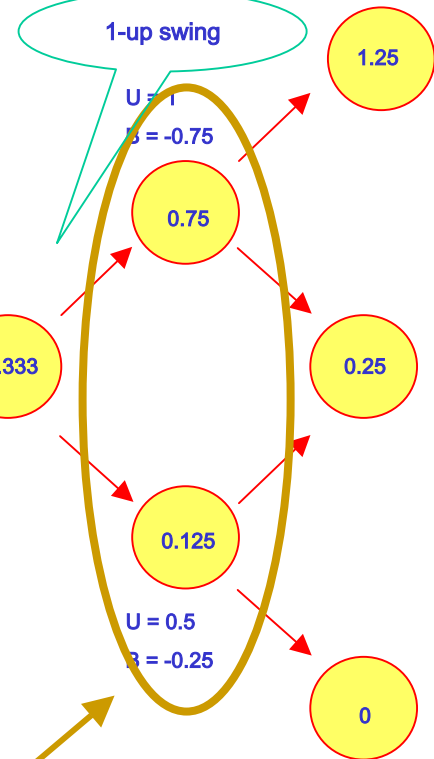
One would exercise when

$$\text{Price} < U - K$$

Pricing an 2-up-swing



One would exercise the first up-swing when
 $(2\text{-up-price}) - (1\text{-up-swing}) < U - K$



2-up-price and 1-up-swing prices agree, as there is only one exercise possibility left, and exercising at 0.75 yields no money at the lower node.

This node presents two possibilities:

- Exercise one option:
 - Cash 0.25, and change tree
- Don't exercise: it makes the branch european, and the option worth 0.58333;

Since both alternatives yield the same, we are indifferent whether we exercise or not