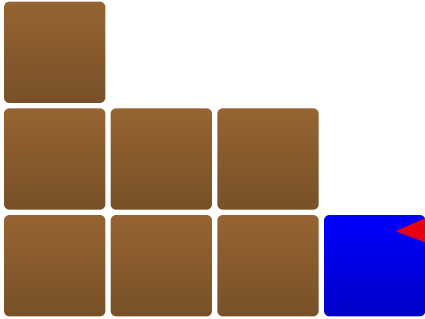


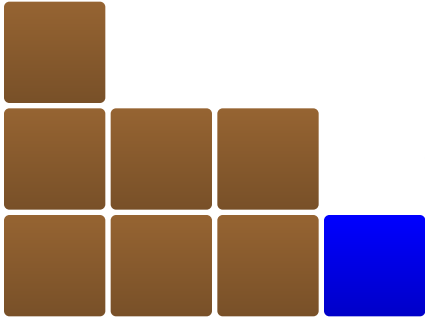
How to calculate Grundy number
of step chocolate games.

How to calculate Grundy number of step chocolate games.



Now we calculate Grundy number of this chocolate game.

How to calculate Grundy number of step chocolate games.

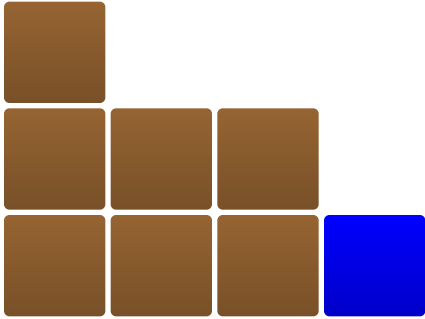


By the definition of Grundy number, the Grundy number of this chocolate is 0.



0

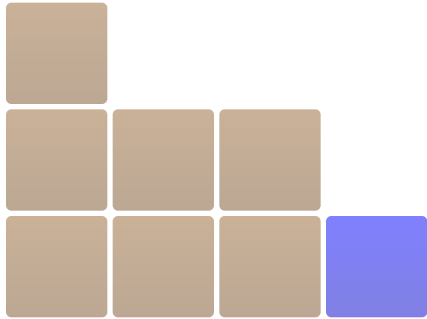
How to calculate Grundy number of step chocolate games.



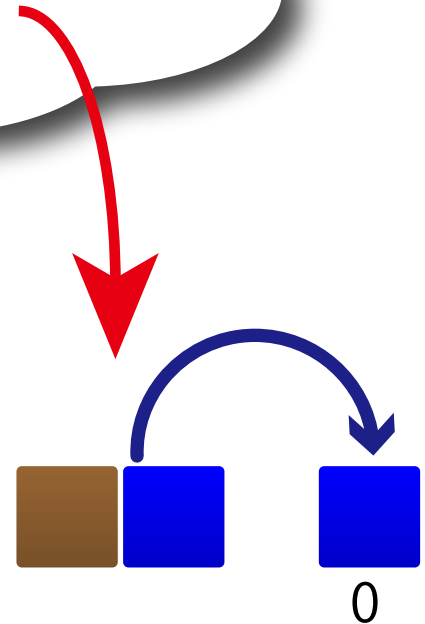
Next, we calculate the Grundy number of this chocolate.



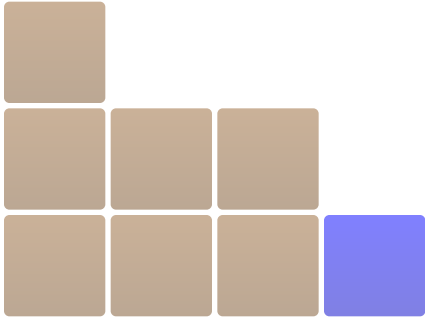
How to calculate Grundy number of step chocolate games.



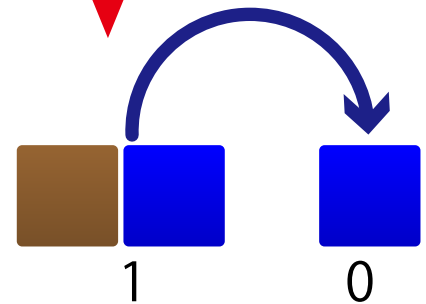
By cutting this chocolate in this way, we get the chocolate indicated by blue arrow mark.



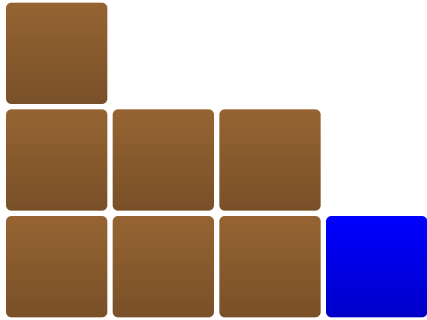
How to calculate Grundy number of step chocolate games.



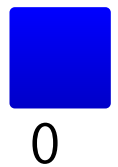
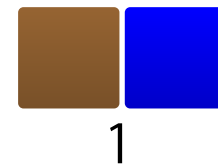
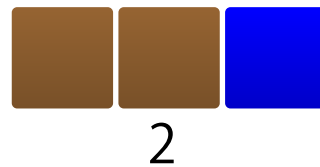
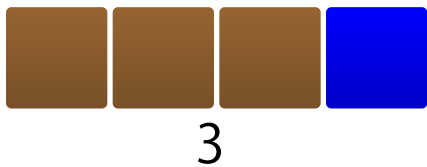
Since $\text{Mex}(\{0\})=1$, the Grundy number of this chocolate is 1.



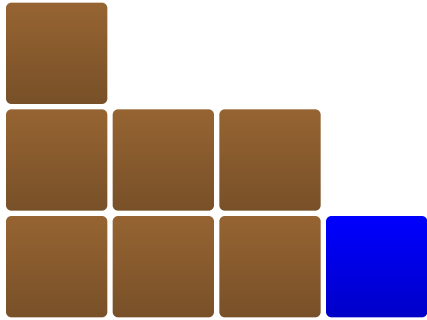
How to calculate Grundy number of step chocolate games.



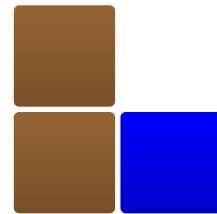
Then the Grundy number of this chocolate can be calculate in this way.



How to calculate Grundy number of step chocolate games.



Next, we calculate the Grundy number of this chocolate.



3



2

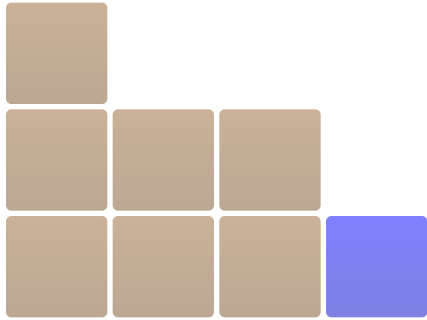


1

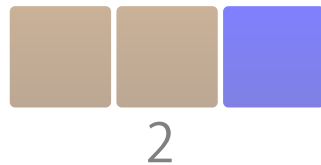
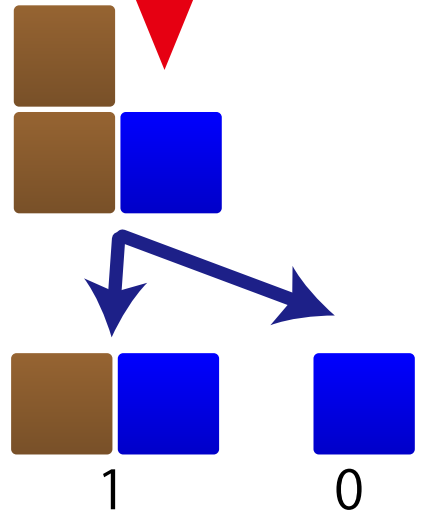


0

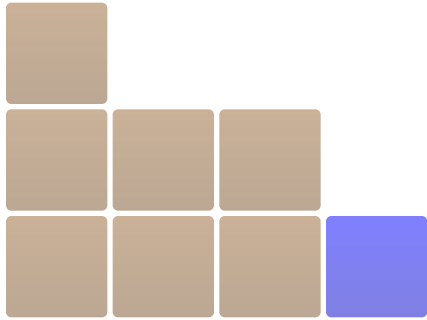
How to calculate Grundy number of step chocolate games.



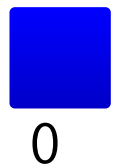
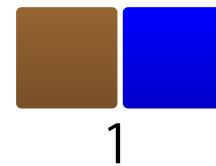
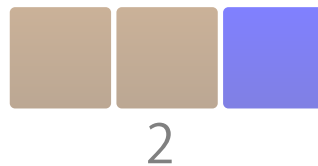
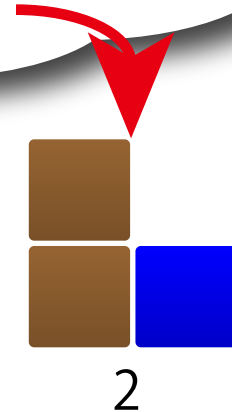
By cutting this chocolate in this way,
we get the chocolate indicated by
blue arrow mark.



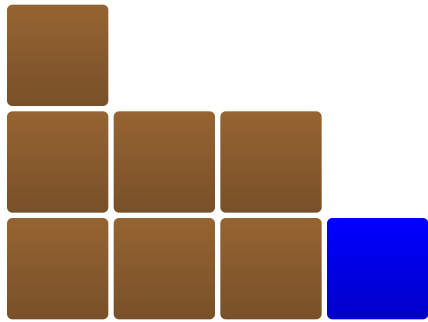
How to calculate Grundy number of step chocolate games.



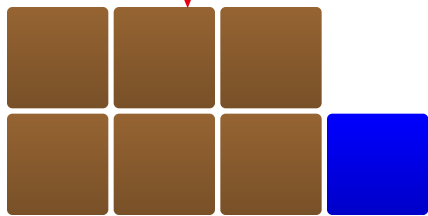
Since $\text{Mex}(\{0,1\})=2$, the Grundy number of this chocolate is 2.



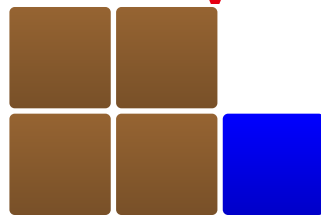
How to calculate Grundy number of step chocolate games.



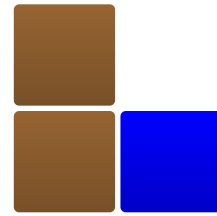
Similarly we calculate the Grundy number of this chocolate.



1



0



2



3



2

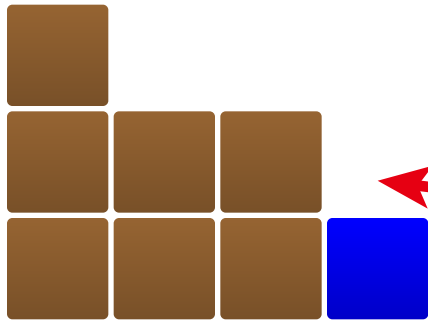


1

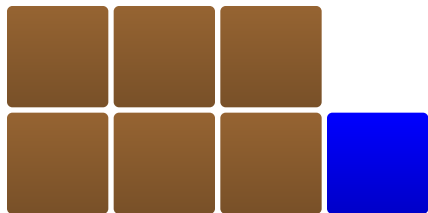


0

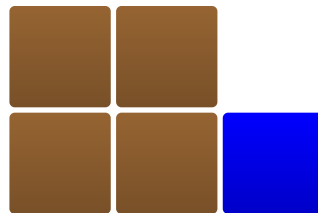
How to calculate Grundy number of step chocolate games.



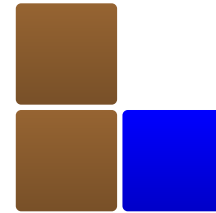
Finally we calculate the Grundy number of this chocolate.



4



1



2



3



2

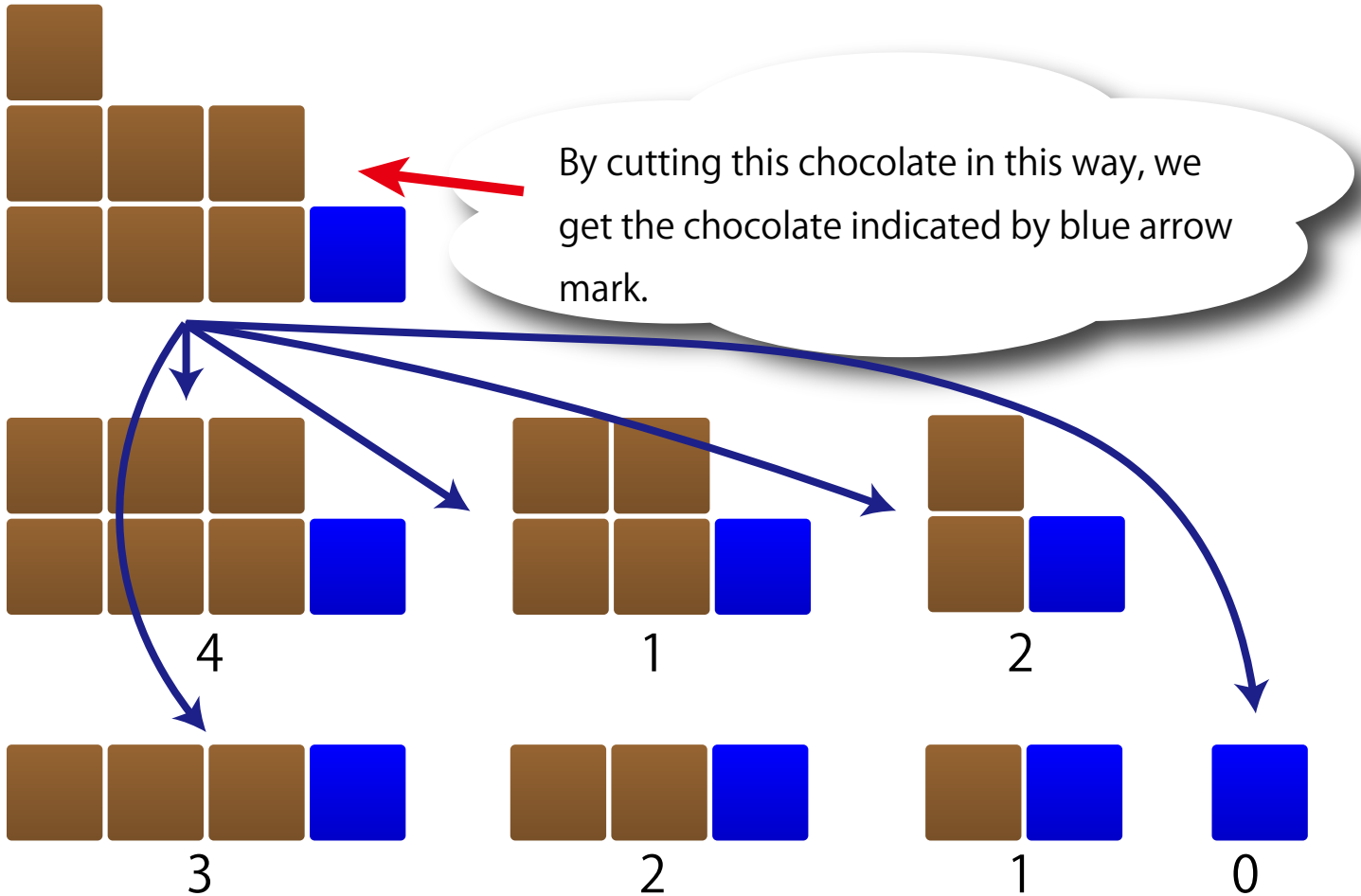


1

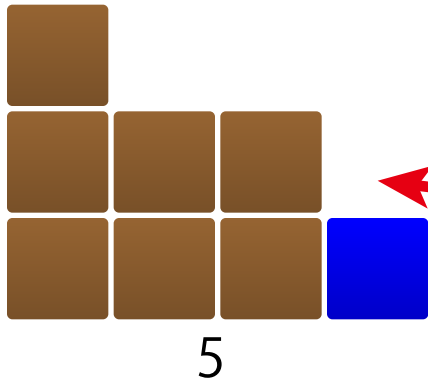


0

How to calculate Grundy number of step chocolate games.



How to calculate Grundy number of step chocolate games.



Since $\text{Mex}(\{0,1,2,3,4\})=5$, the Grundy number of this chocolate is 5.

