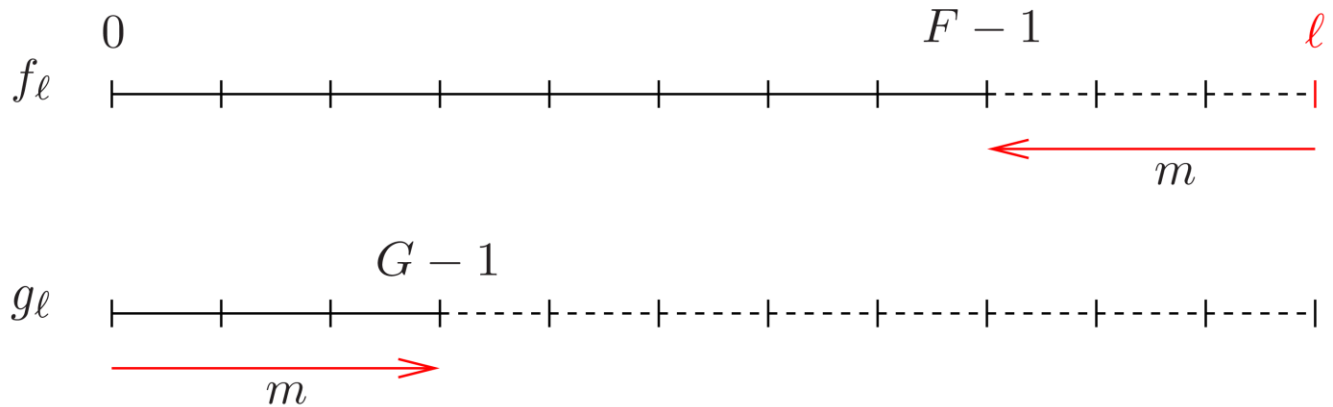
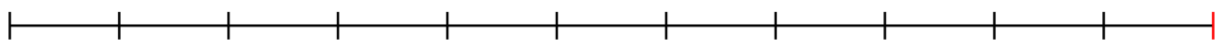


Cyclic vs. linear convolution

Beispiel: $G = 4$, $F = 9$, $F + G - 2 = 11$

Fall $\ell = F + G - 2$



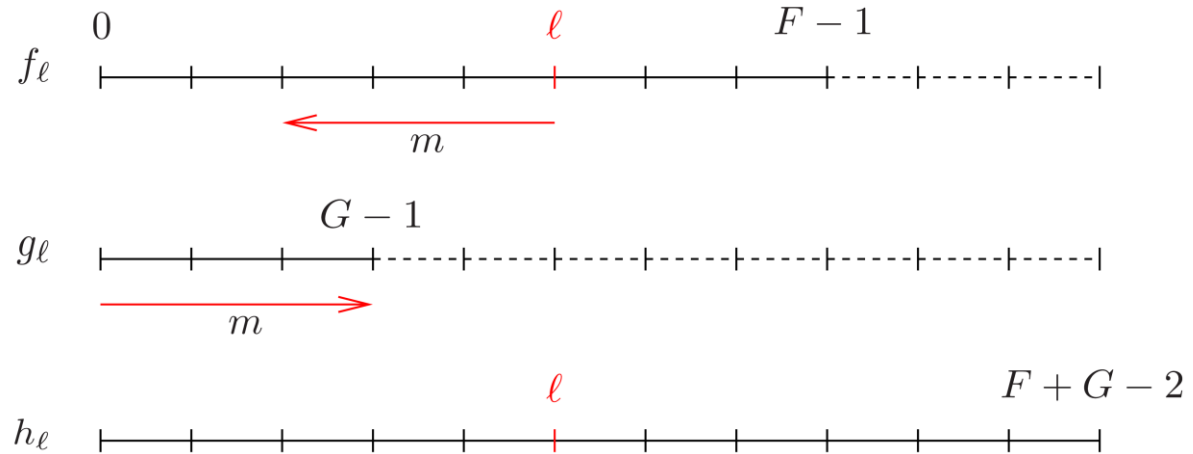
linear convolution h_ℓ  $F + G - 2$

The diagram shows the result of linear convolution, h_ℓ , as a horizontal line with tick marks. The last tick mark is labeled $F + G - 2$.

$$h = f * g$$

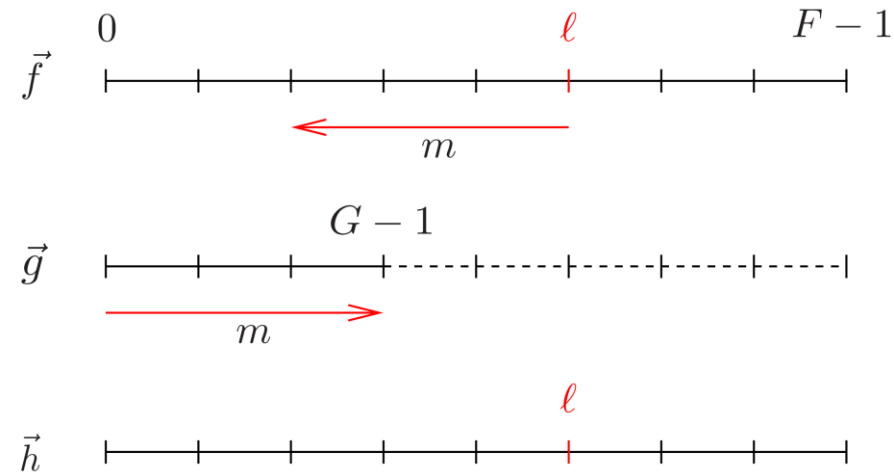
$$h_\ell = 0 \text{ für } \ell \notin [0, F + G - 2]$$

Fall $\ell = 5$



linear convolution

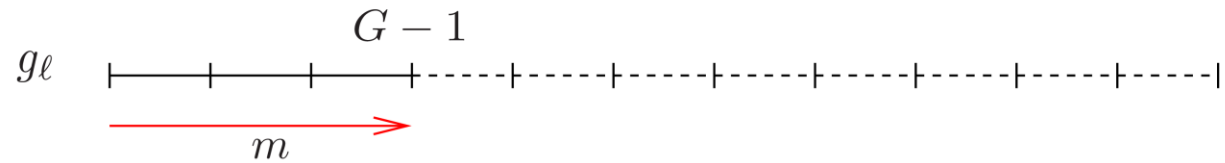
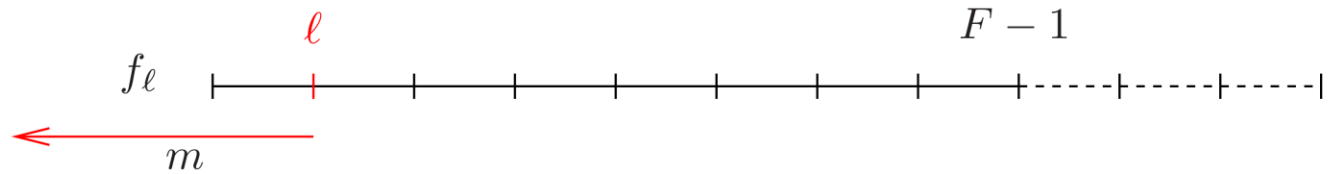
Fall $\ell = 5$



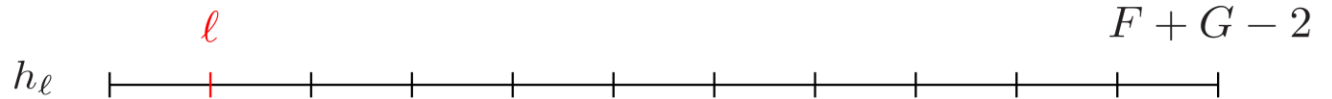
cyclic convolution

Identical result!

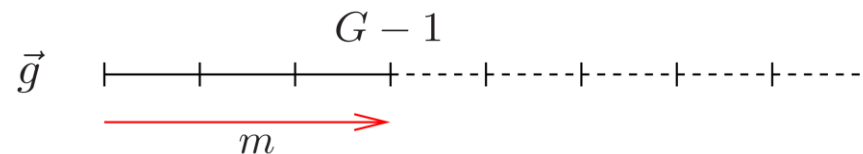
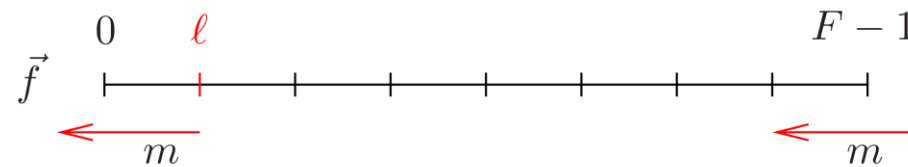
Fall $\ell = 1$



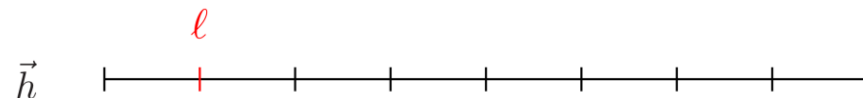
linear convolution



Fall $\ell = 1$

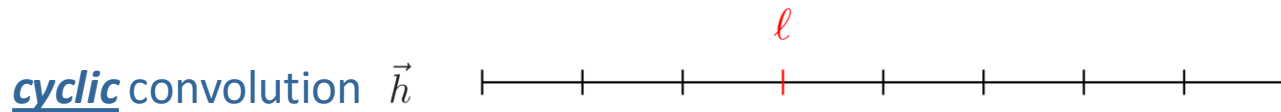
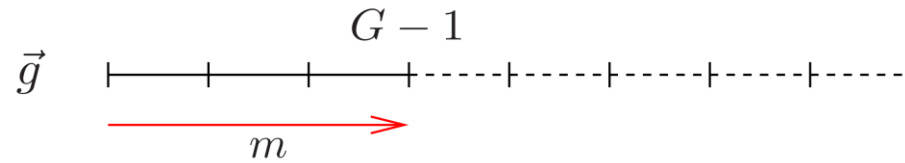
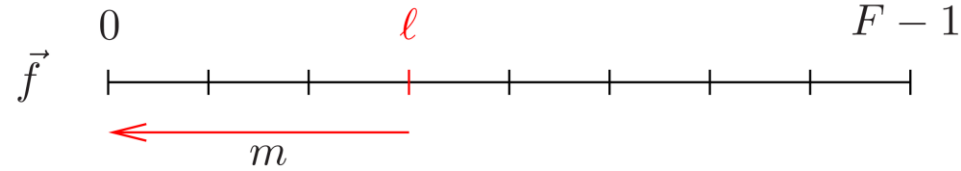


cyclic convolution



Different result!

Fall $\ell = 3$



**Edge case:
Identical result!**

Ergebnis gleich für $\ell = G-1, \dots, F-1$

Blockweise Berechnung von $h = f * g$

$$G = 4, \quad F = 9, \quad \Delta = F - G + 1 = 6$$

