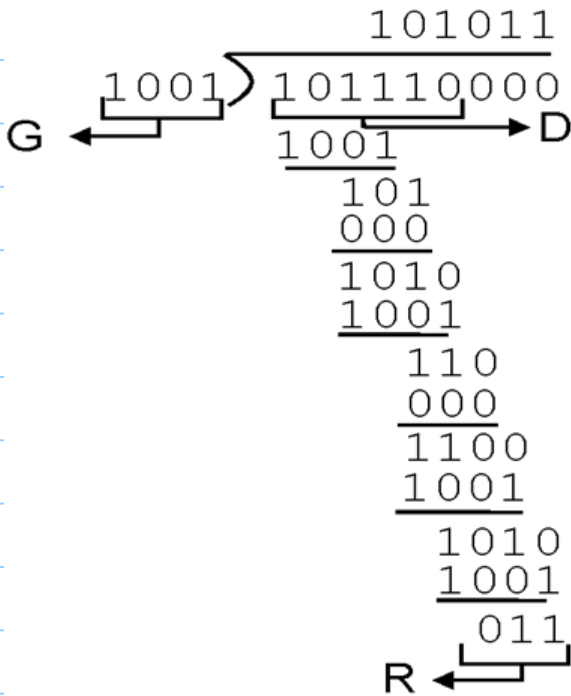
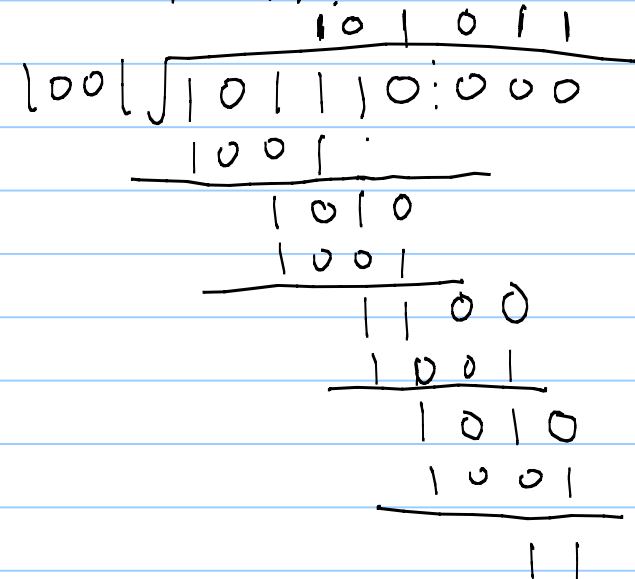


1) delay

2) bandwidth saving in normal links



$D = 10110$ $G = 1001$
 $R = ???$



$R = 011$

$$f(p) = Np(1-p)^{N-1}$$

$$\max_p f(p) ?$$

$$\frac{df(p)}{dp} = N(1-p)^{N-1} - (N-1) \cdot Np(1-p)^{N-2} \Big|_{p=p^*} = 0$$

$$N(1-p^*)^{N-1} = Np^*(1-p^*)^{N-2} \cdot (N-1)$$

$$1-p^* = p^*(N-1)$$

$$p^* = \frac{1}{N}$$

$$f(p^*) = N \cdot \frac{1}{N} \left(1 - \frac{1}{N}\right)^{N-1} = \left(1 - \frac{1}{N}\right)^{N-1} \xrightarrow{N \rightarrow \infty} \frac{1}{e}$$