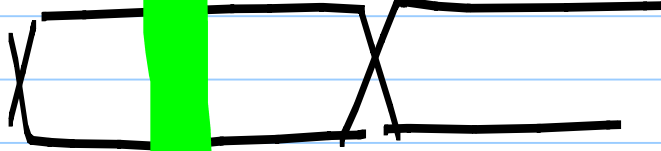
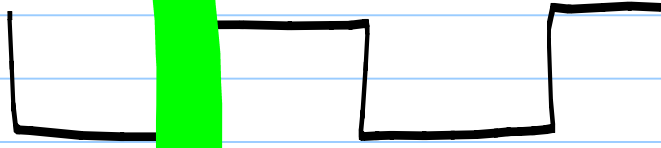


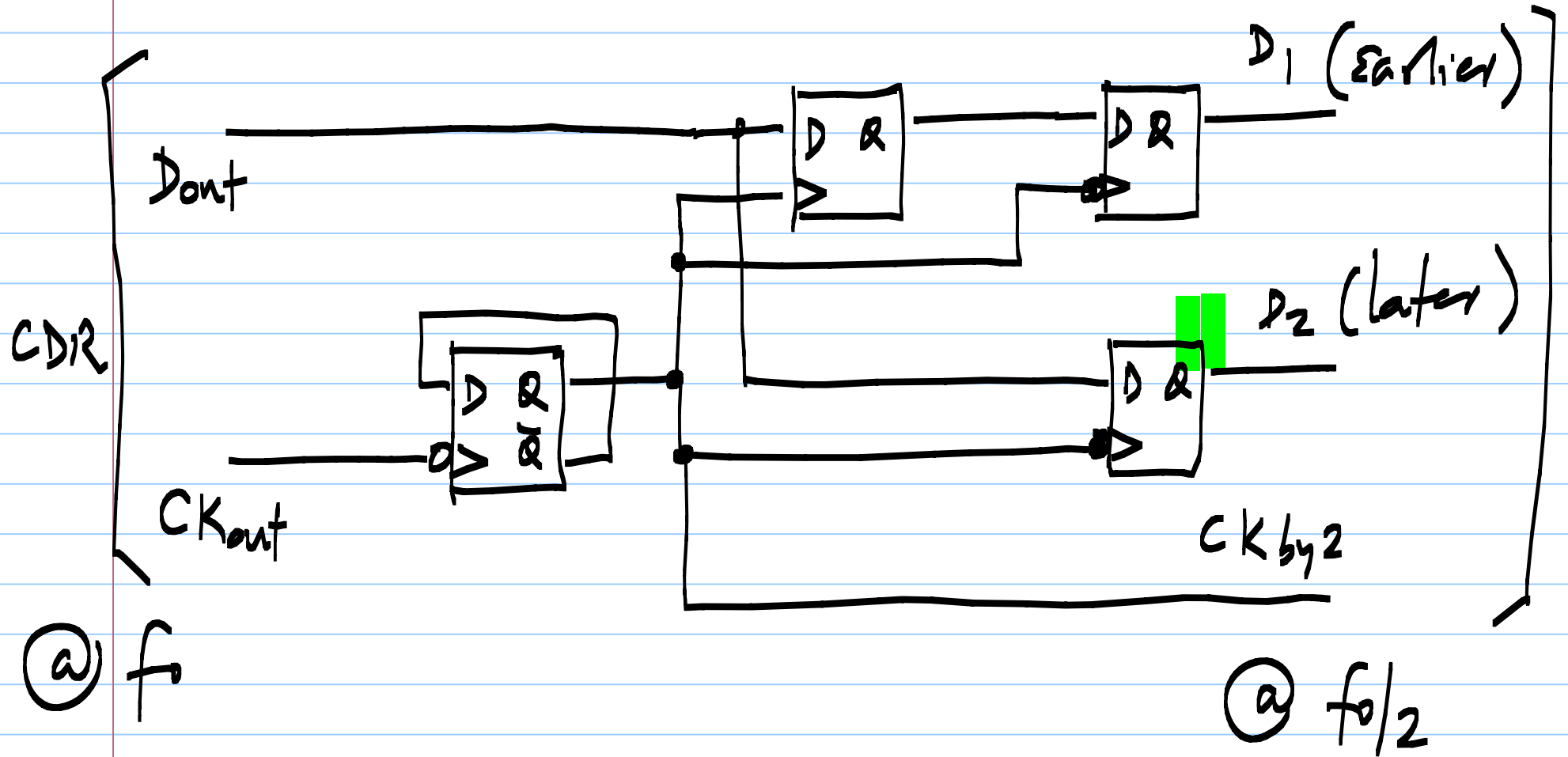
Din

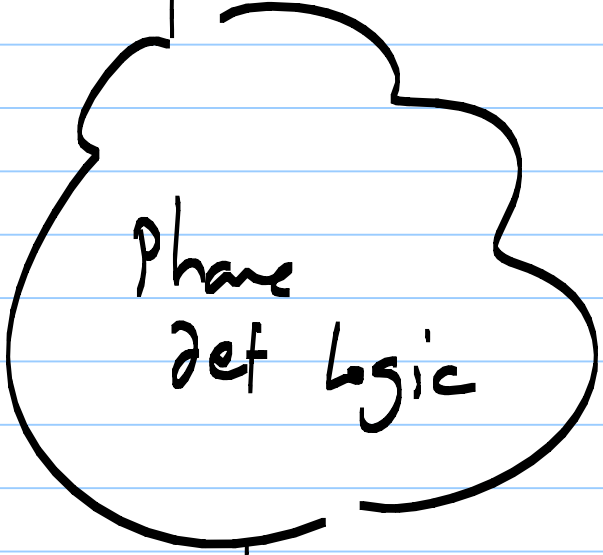


Ckout



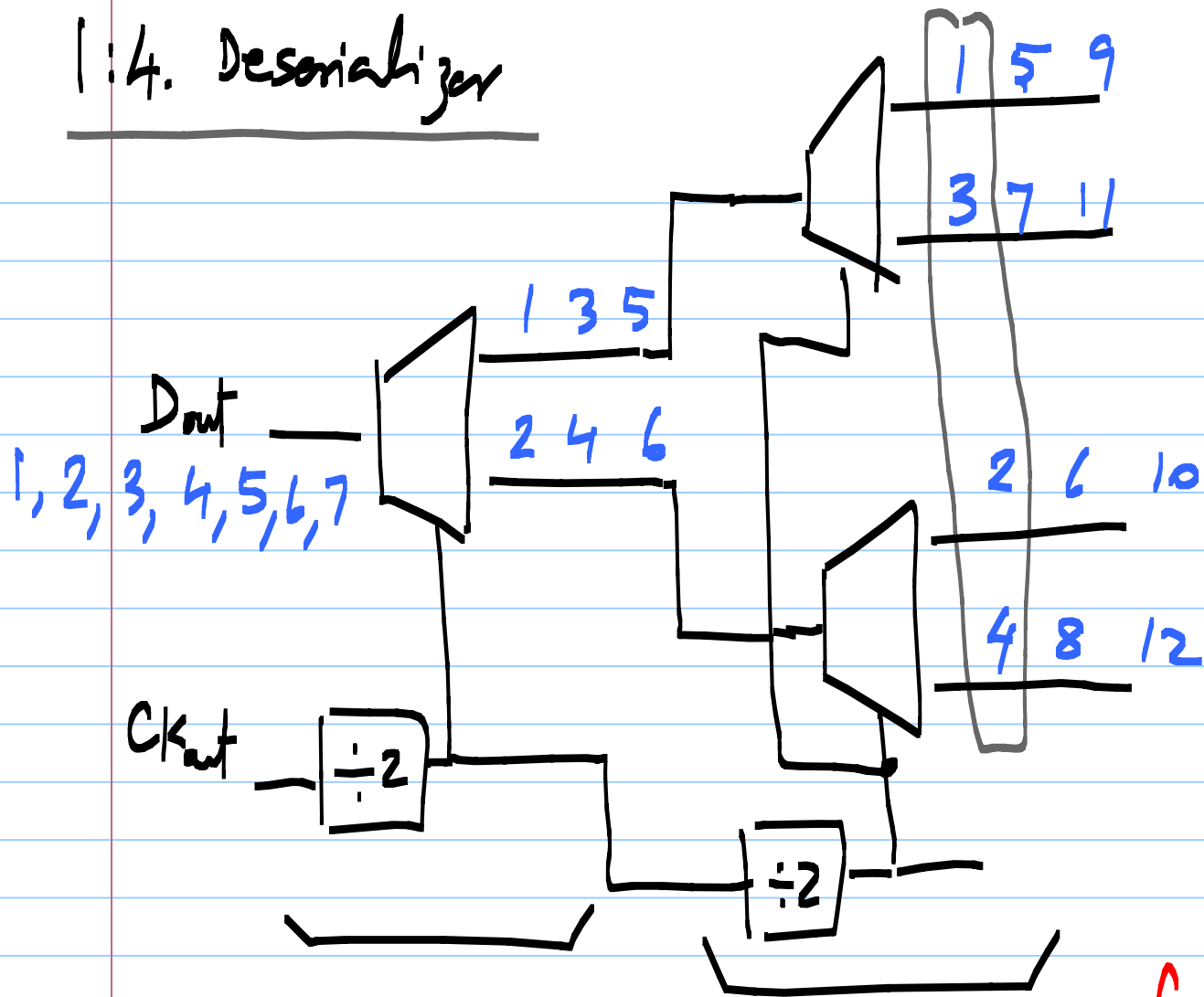
# 1:2 Deserializer





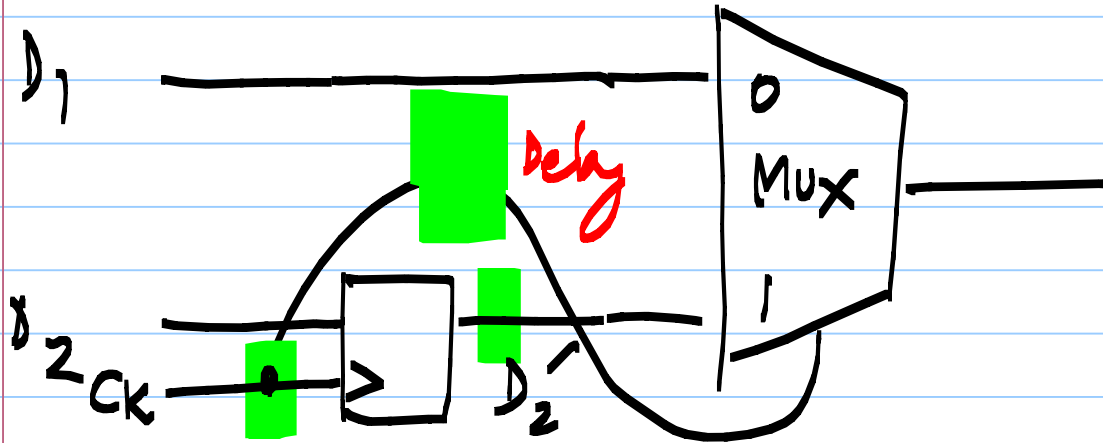
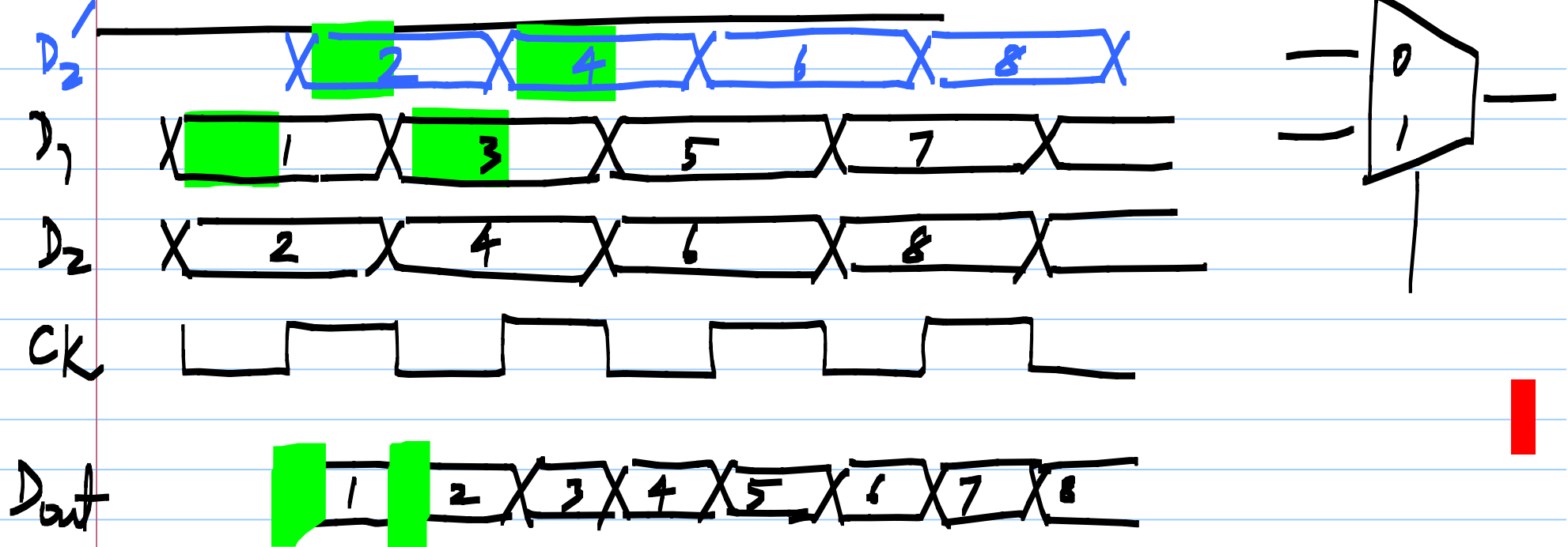
low speed

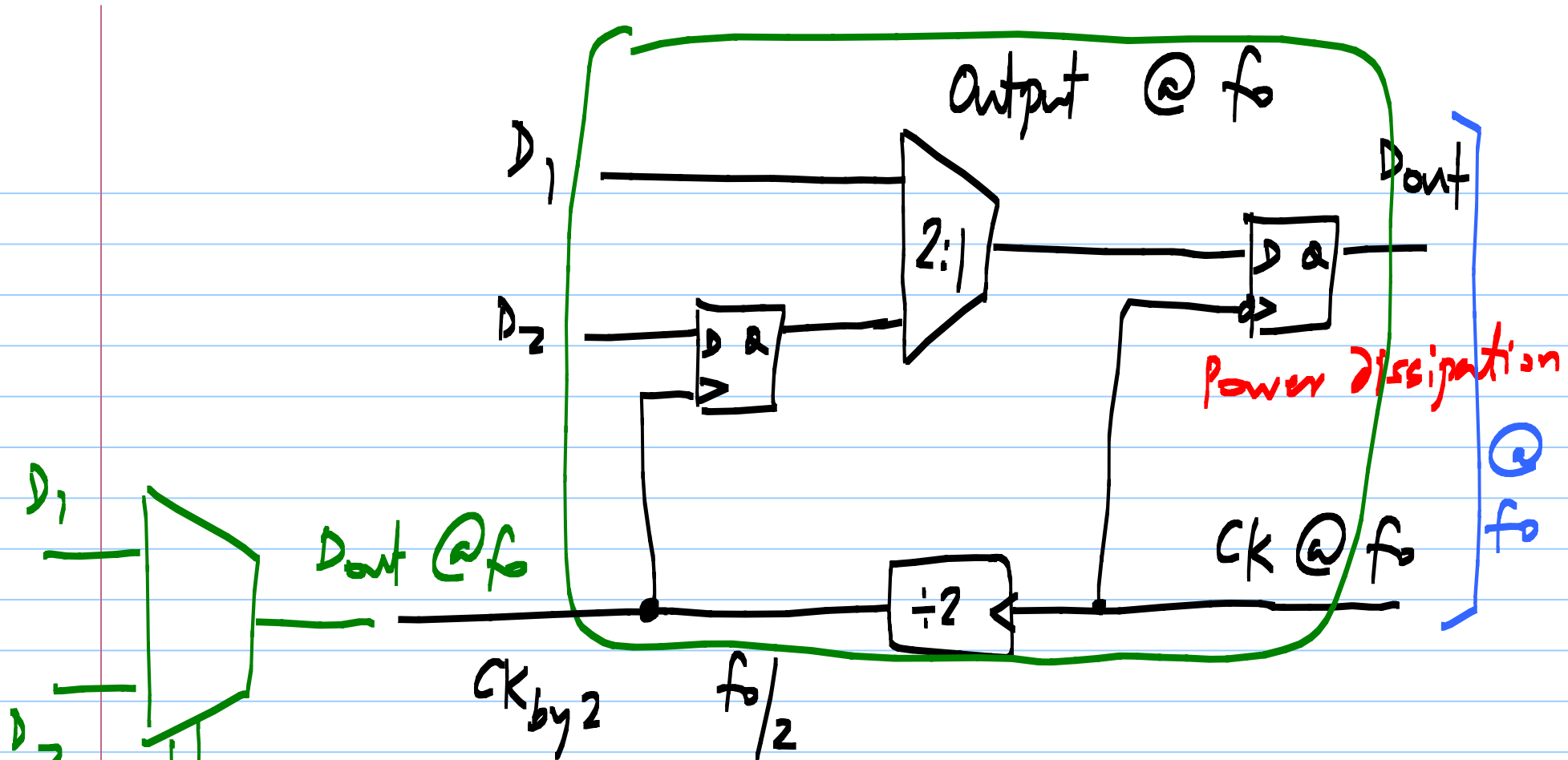
# 1:4. Deserializier



$f_0$  1:2 Deser  $\frac{f_0}{2}$  2x 1:2 Deser  $\frac{f_0}{4}$

# Serializer in a transmitter

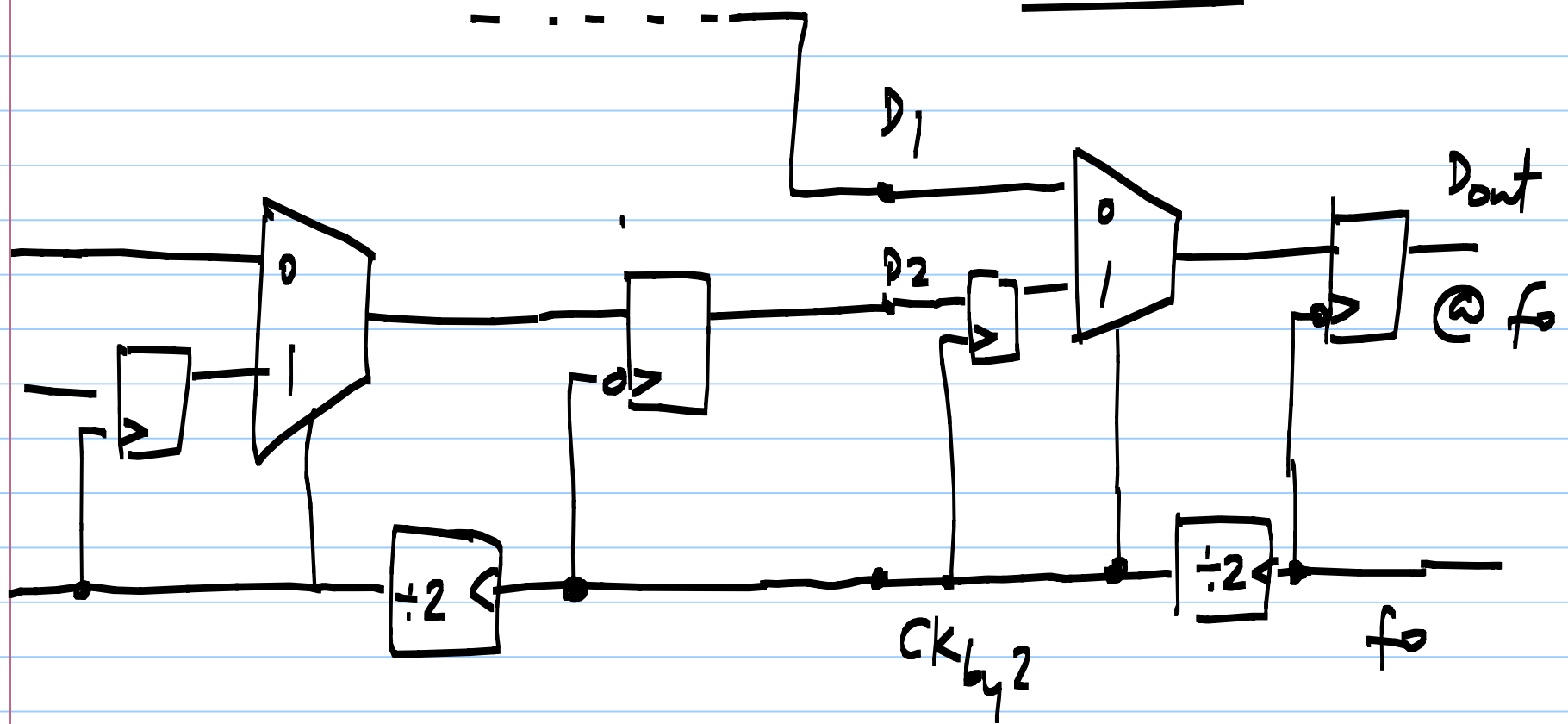




$CK_{by2}$   $D_1, D_2$  transitions are @ falling edges of  $CK_{by2}$



# Serialize - Deserializer (SERDES)



4:1 Serializer