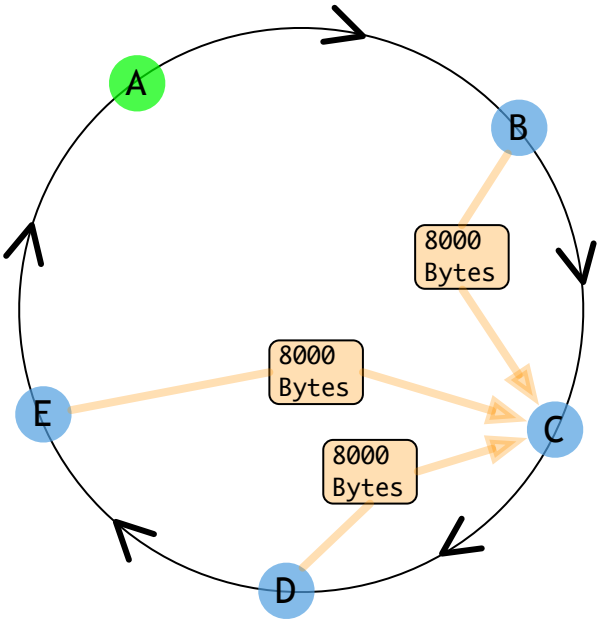
Ex. 7-1: TTRT et al

Describe the expressions TTRT, TRT, and THT and their relation on each other. Give min/max constraints for each, i.e. TTRT has to be at least / at most . . ..

Ex. 7-2: Token Ring

5 Stations A, B, C, D, and E are attached to one Token Ring LAN, each 100 [m] apart. The link bandwidth is $16 \cdot 10^6$ $\left[\frac{\text{Bit}}{\text{s}}\right]$, signal propagation speed is $5 \cdot 10^7$ $\left[\frac{\text{m}}{\text{s}}\right]$. Processing delay *within* the stations is neglectable, even if a station is receiving data. Also neglectable is the time necessary for the sending of the header. The maximum transmission time of a frame is 1 [ms]. At $t = 0$, the free token with reserved priority 0, is at Station A. Stations B, D, and E, want to send 8000 [Bytes] to station C.



1. Compute the maximum length of one frame.
2. Given no station wants to send with increased priority, how long does it take station E to send its data to C. *Hint: The requested time span is until* Es *data is removed from the token again.*
3. D wants to send with a higher priority of 1. Explain in detail the priority mechanism, starting at the $t = 0$ situation and ending when D is done sending and the next station starts to send. Explain all actions of the nodes involved and the changes in the token.
4. Does the result of question 2 change by the prioritizing. If yes, by how many milliseconds.