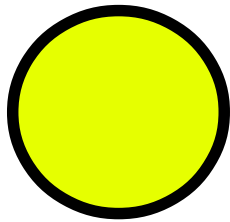
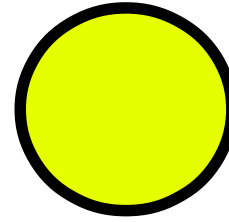


Monitor without a Queue

Monitor

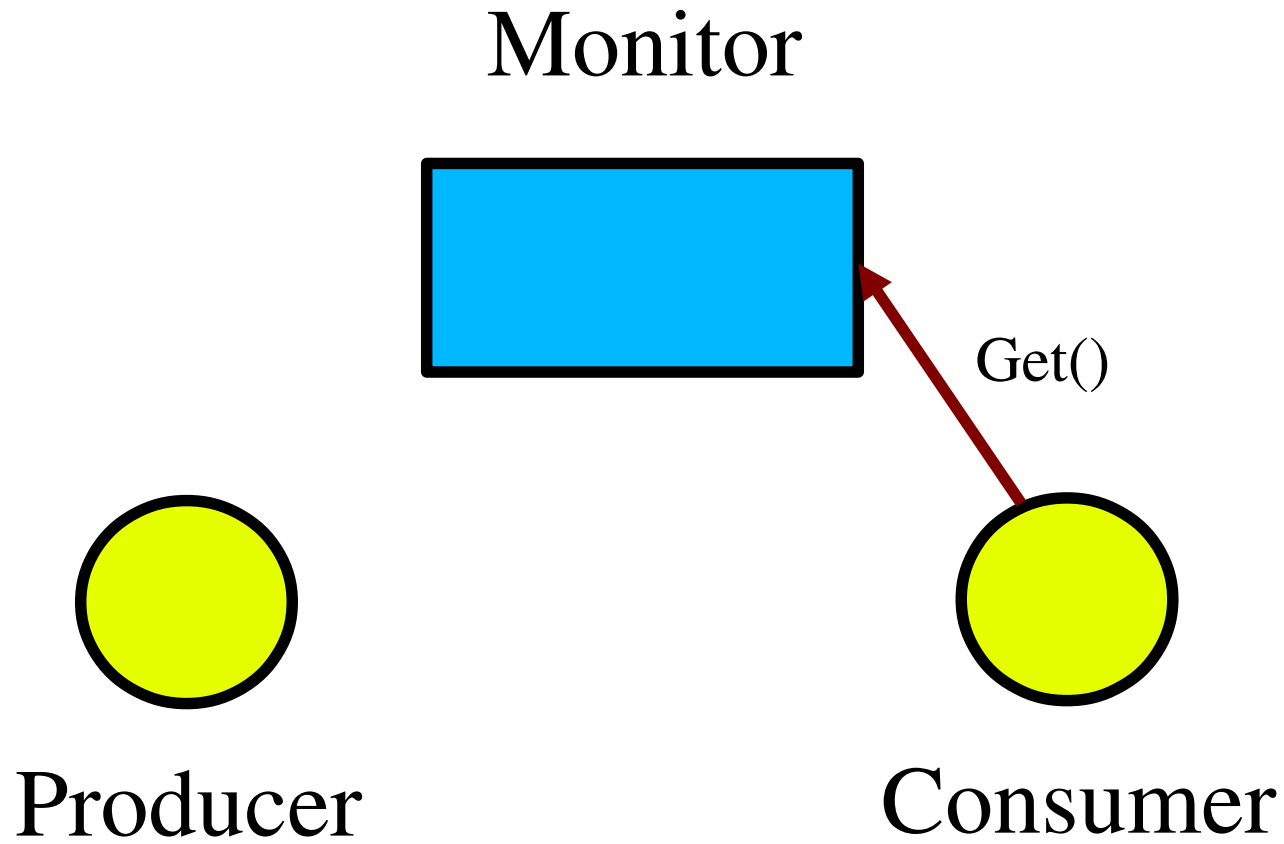


Producer

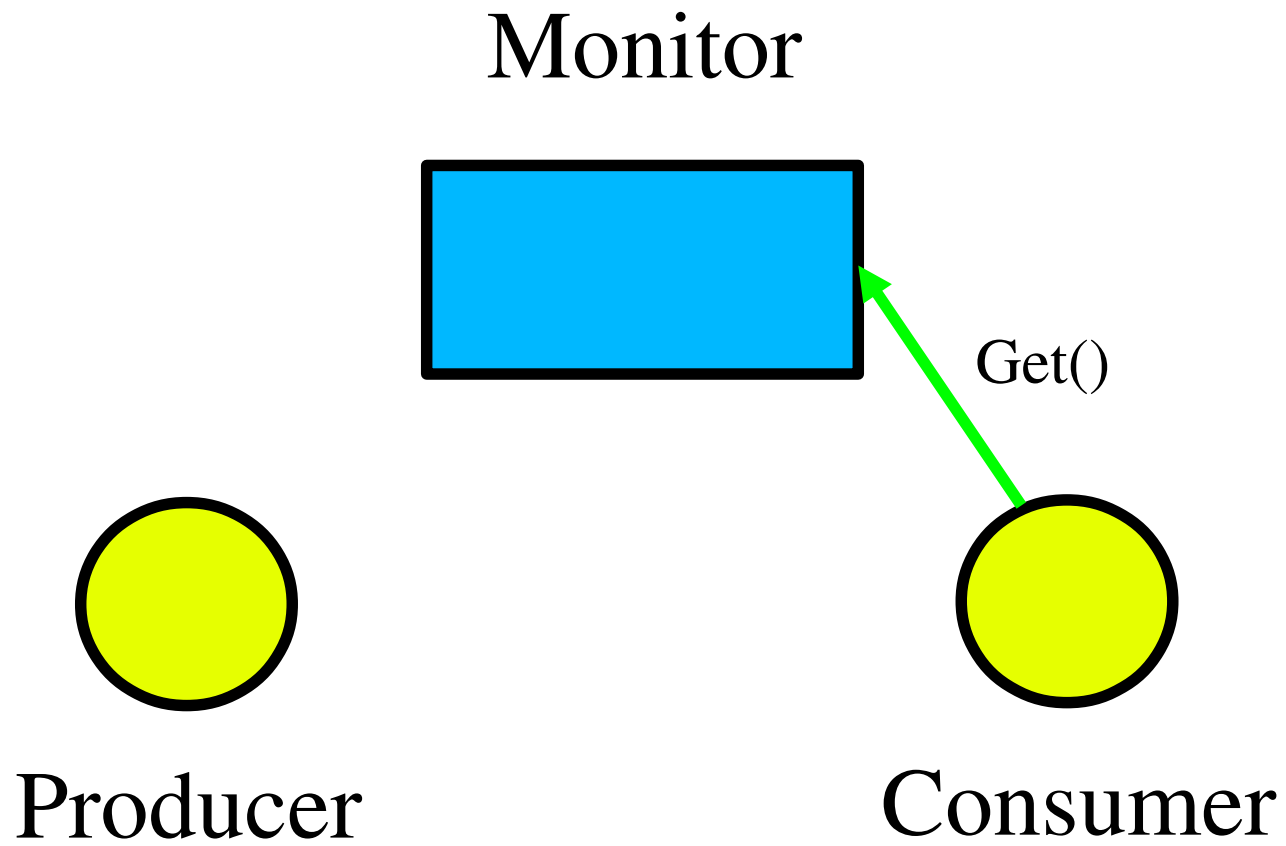


Consumer

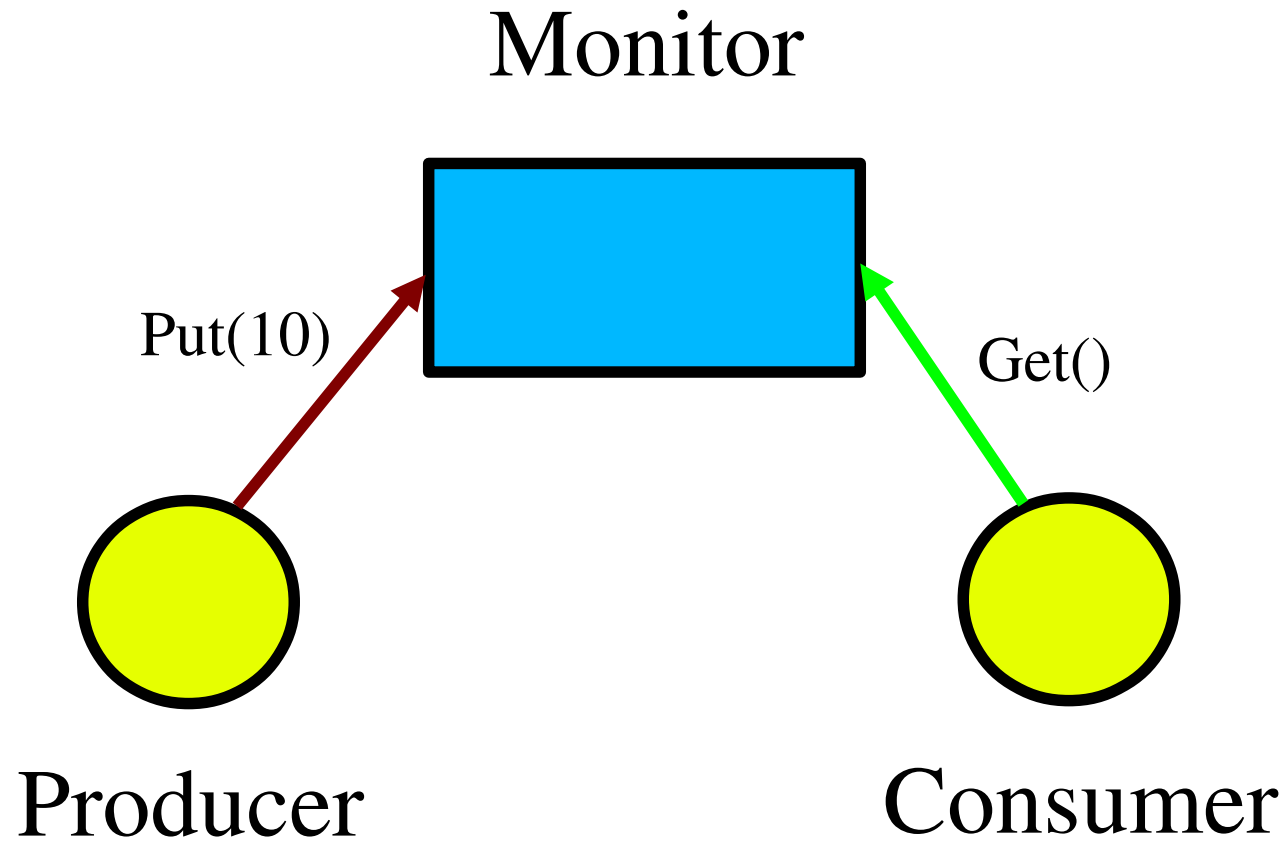
Monitor has no token



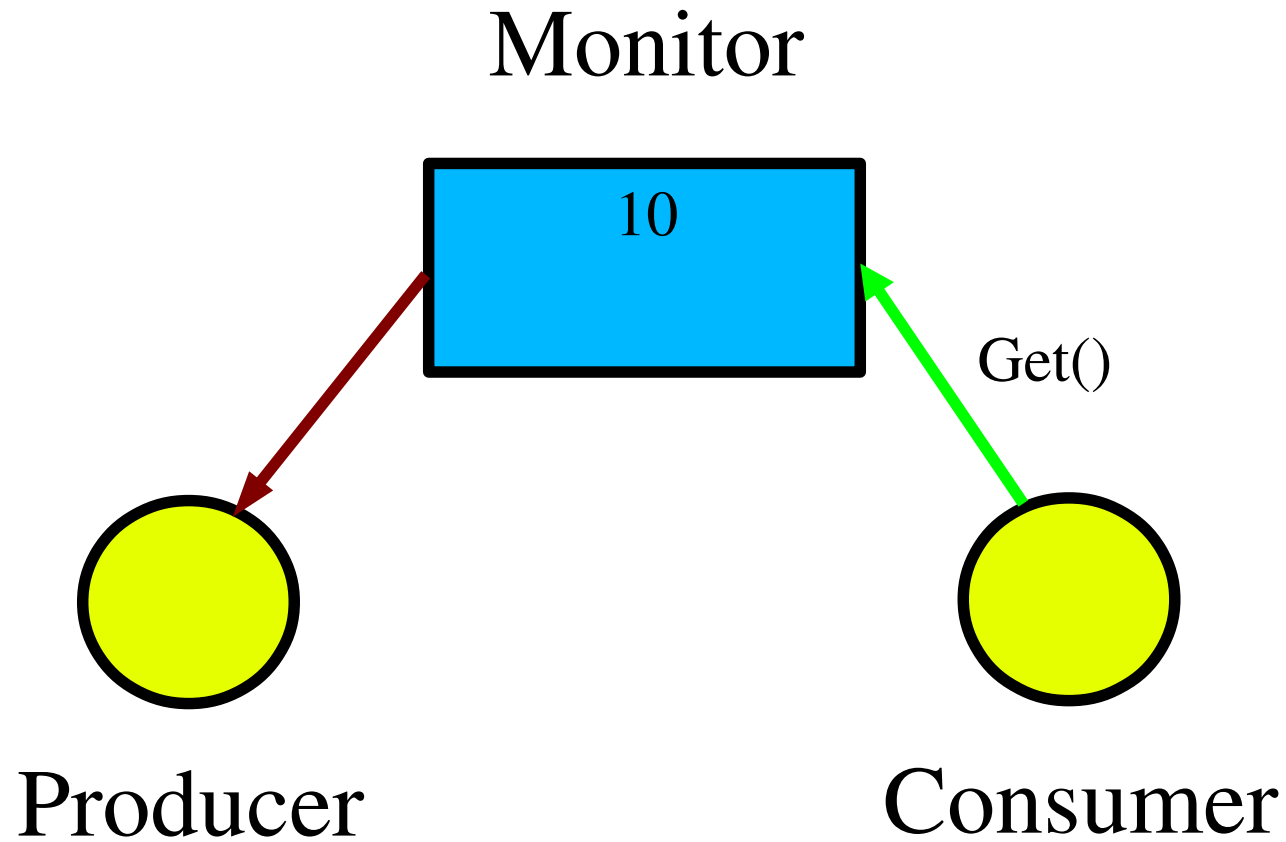
Consumer attempts to 'get' a token from the Monitor
Monitor has no token



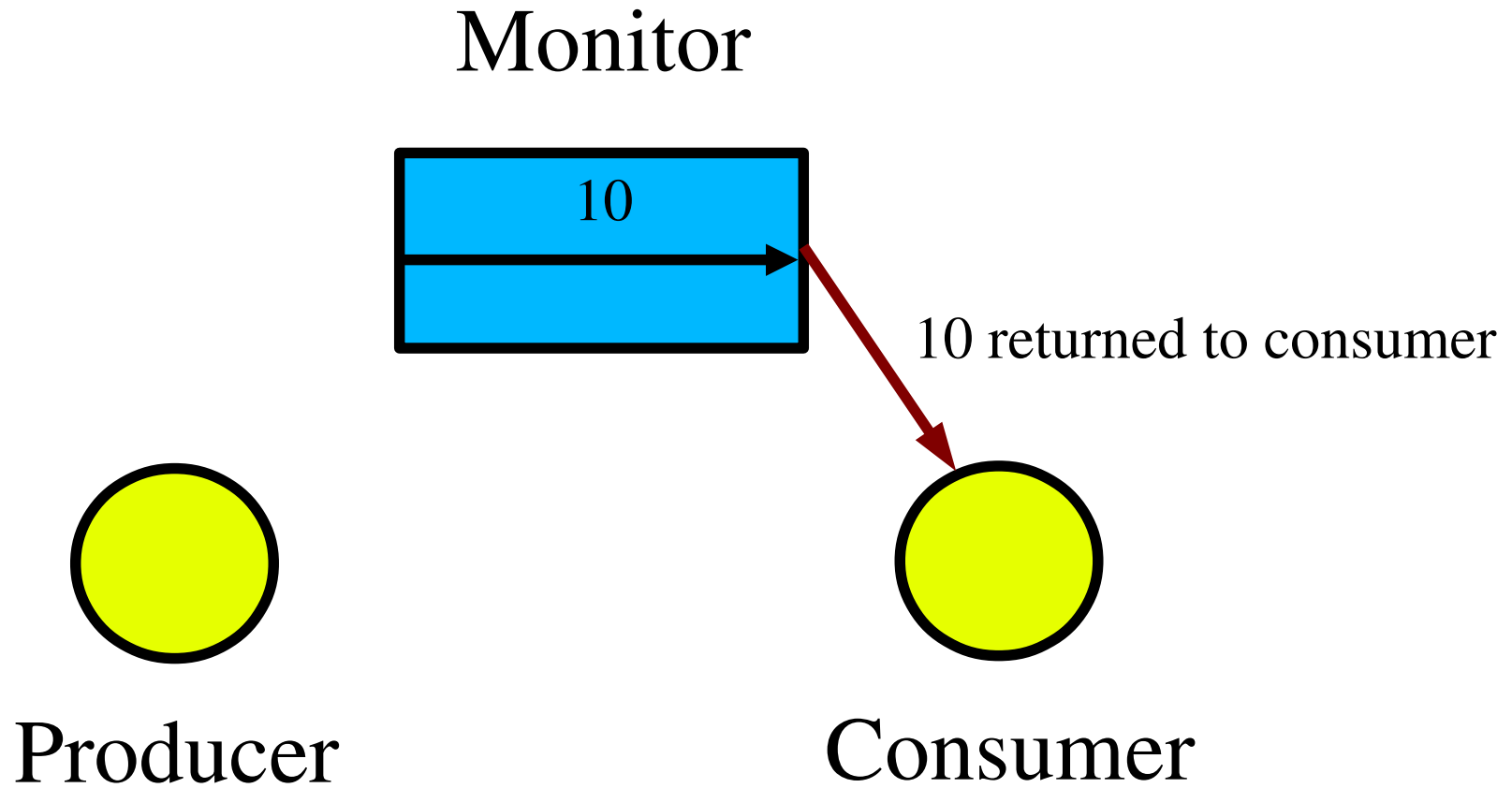
Consumer is suspended since the Monitor has no token



Producer attempts to 'put' a token into the Monitor

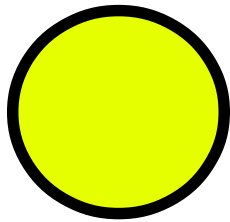


Producer succeeds, the Monitor has a token (10),
Producer continues computing

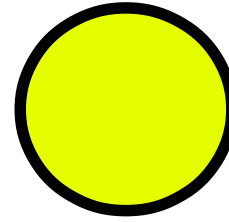


Monitor sends token (10) to the Consumer,
Consumer resumes computing with the token in hand

Monitor

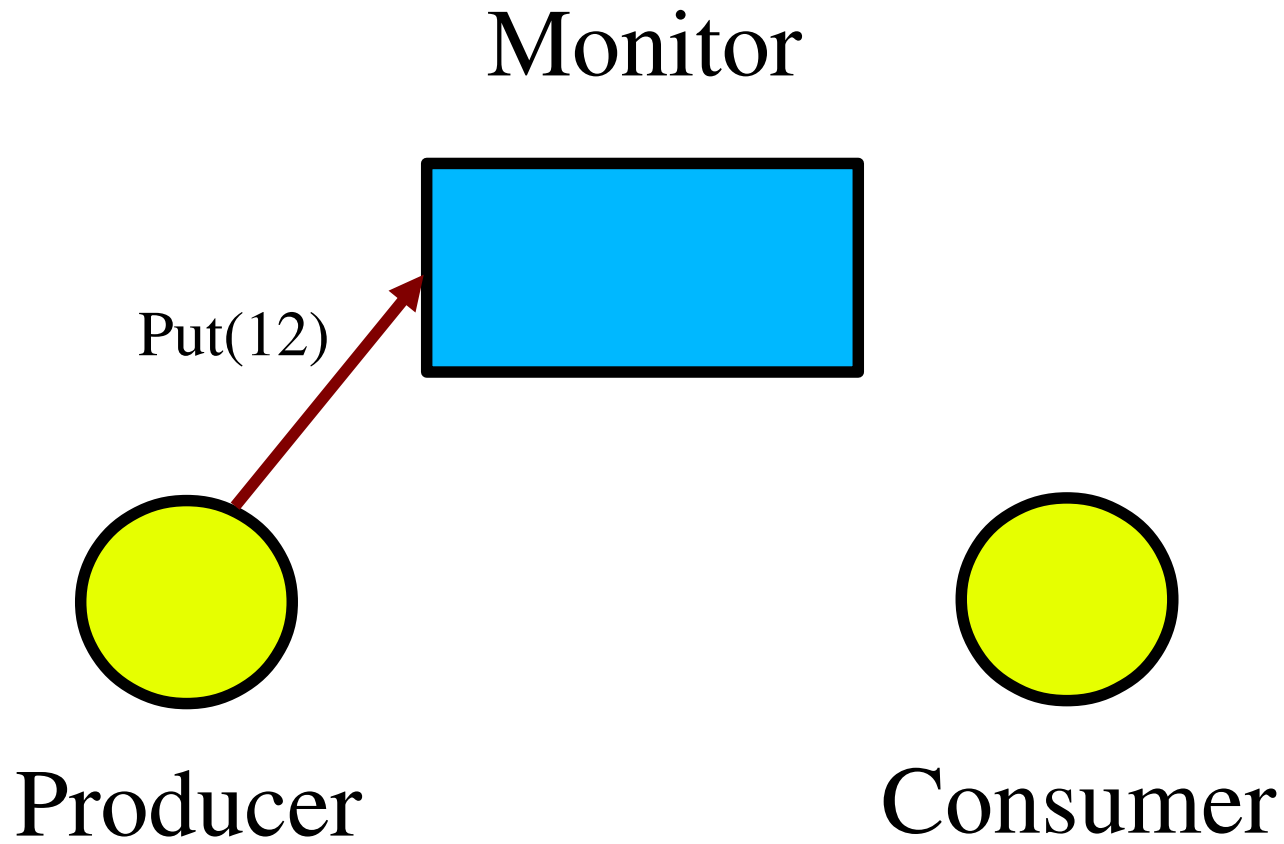


Producer

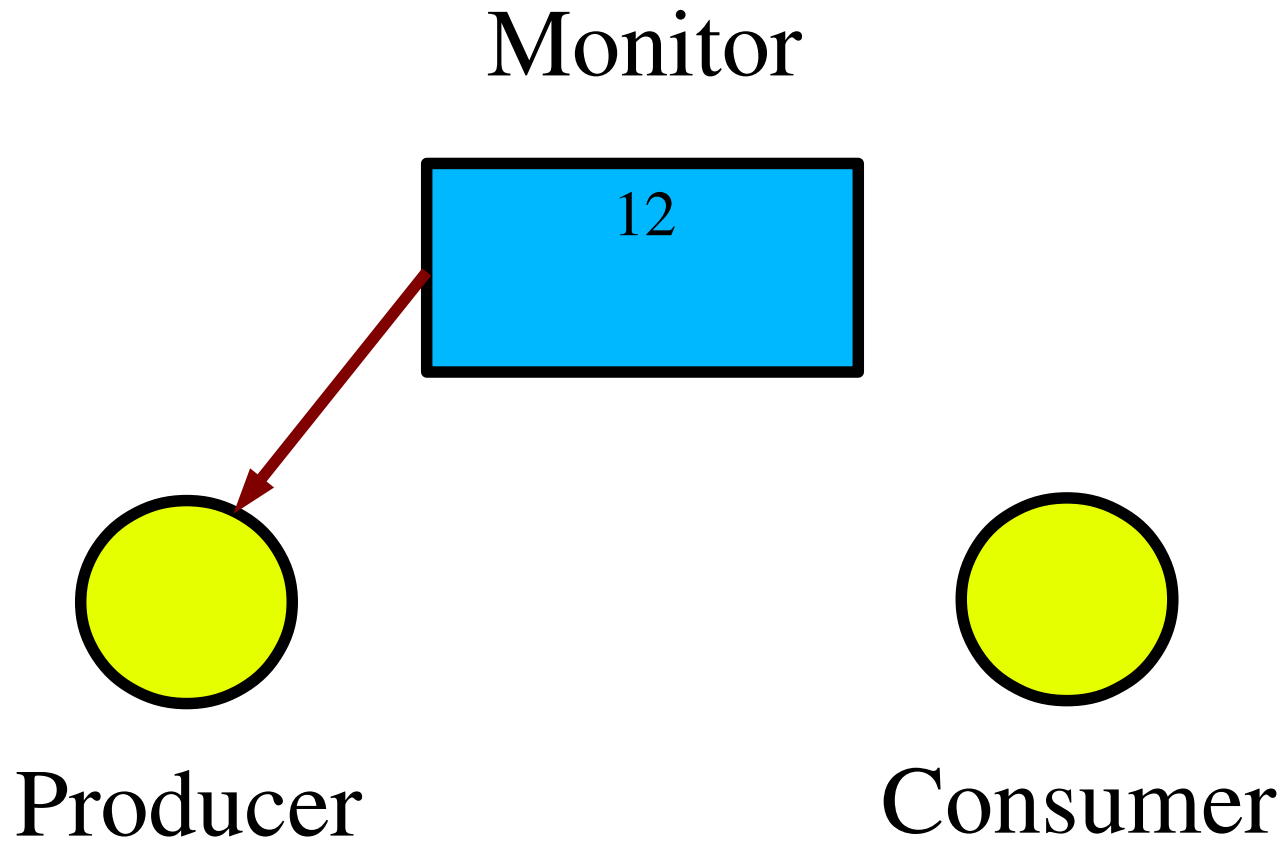


Consumer

Monitor has no token

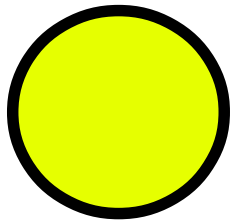
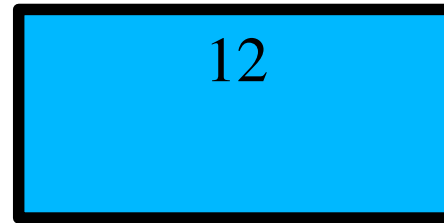


Producer attempts to 'put' a token (12) into the Monitor

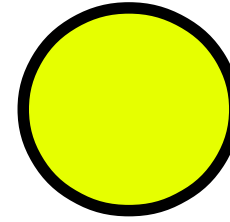


Producer succeeds, the Monitor records the token (12), lets the Producer continue with its computation

Monitor

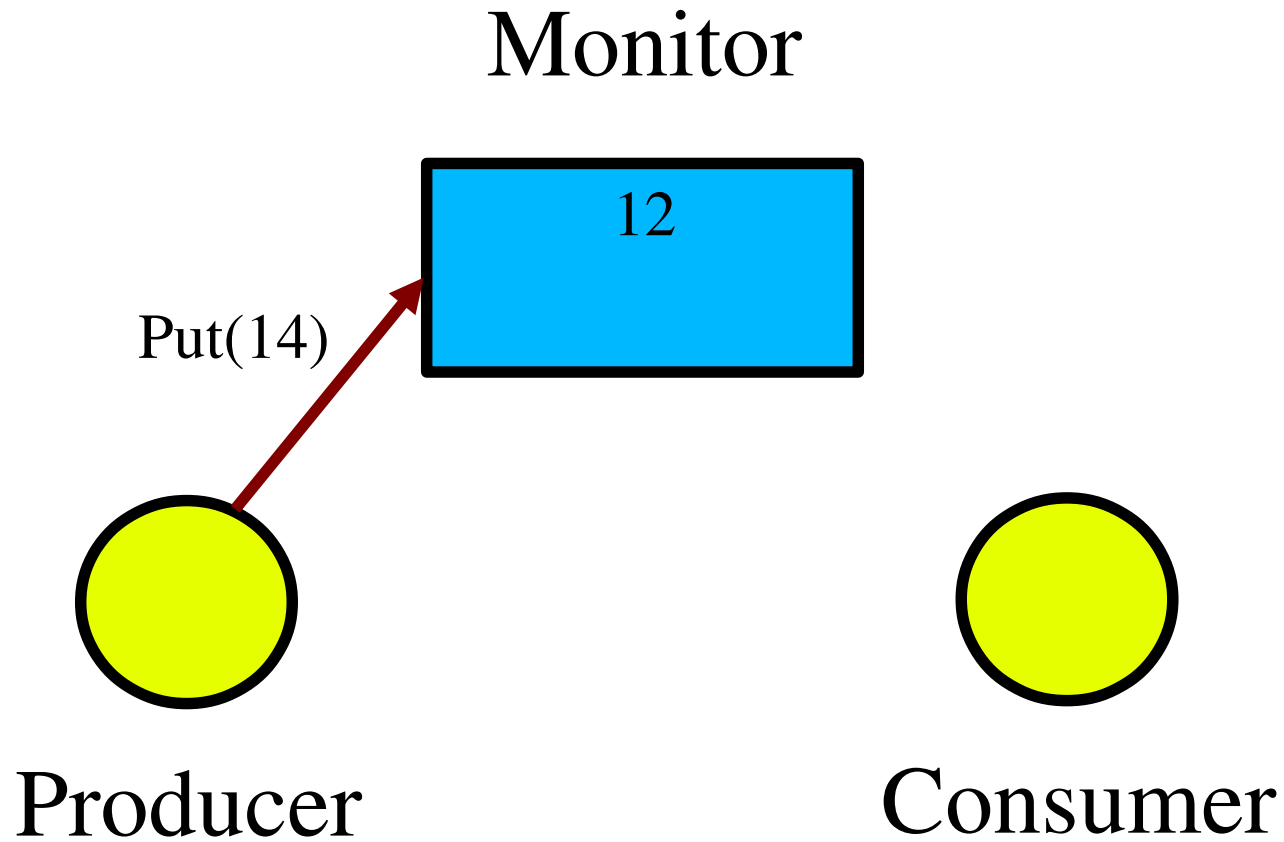


Producer

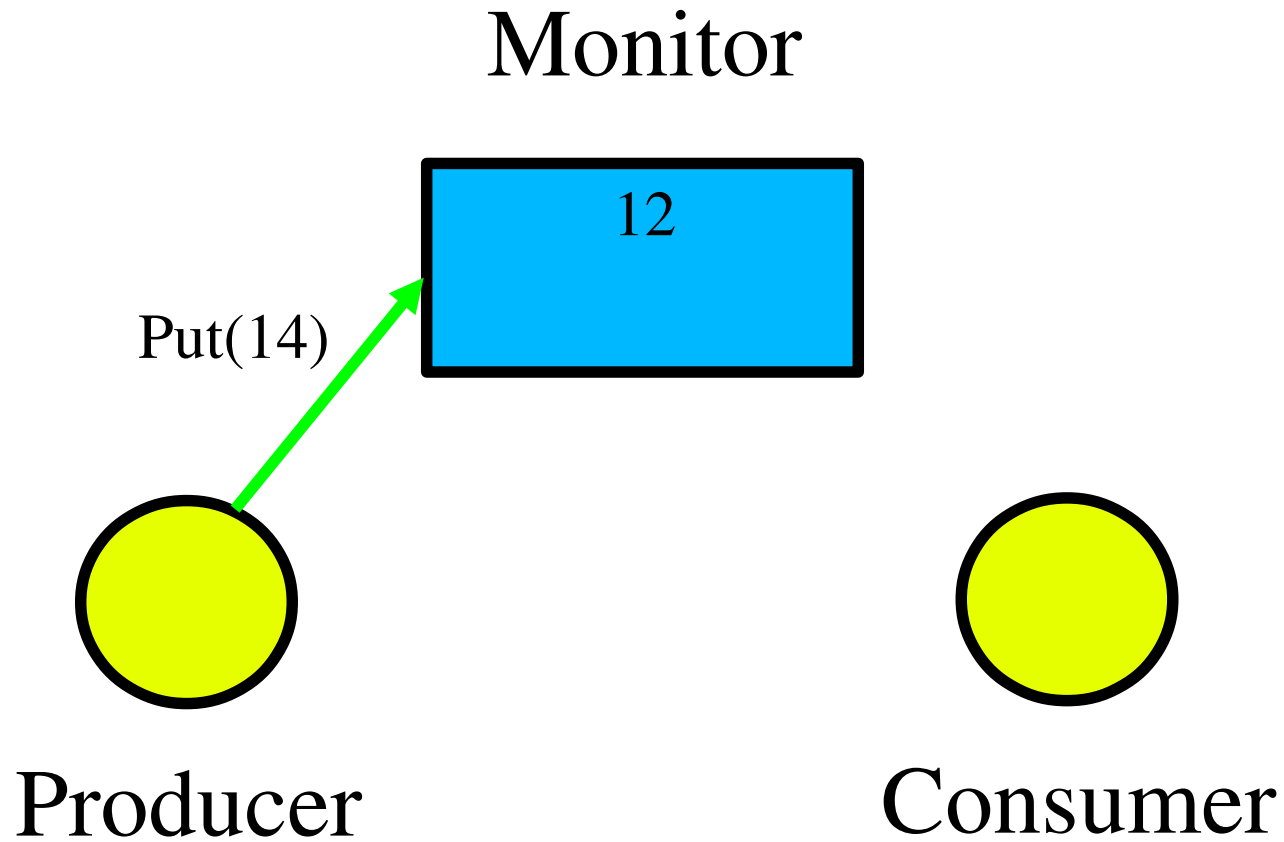


Consumer

Monitor has a token (12)

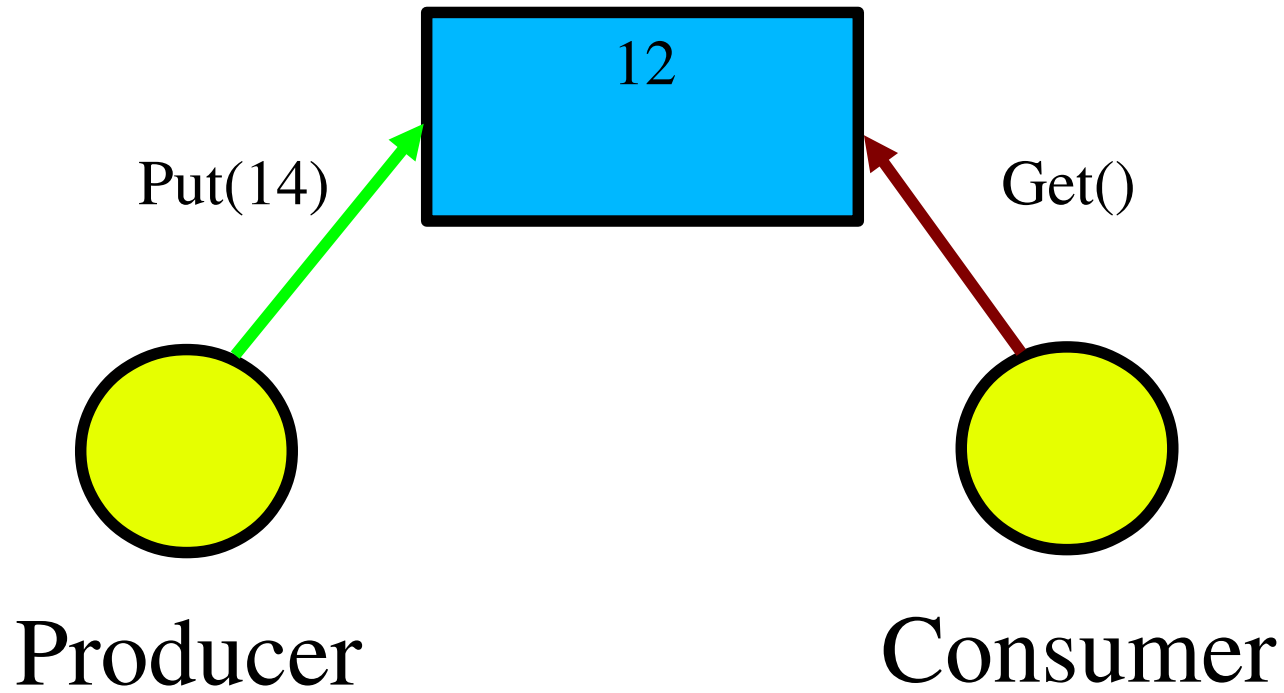


Producer attempts to 'put' a token 14 into the Monitor which has token 12

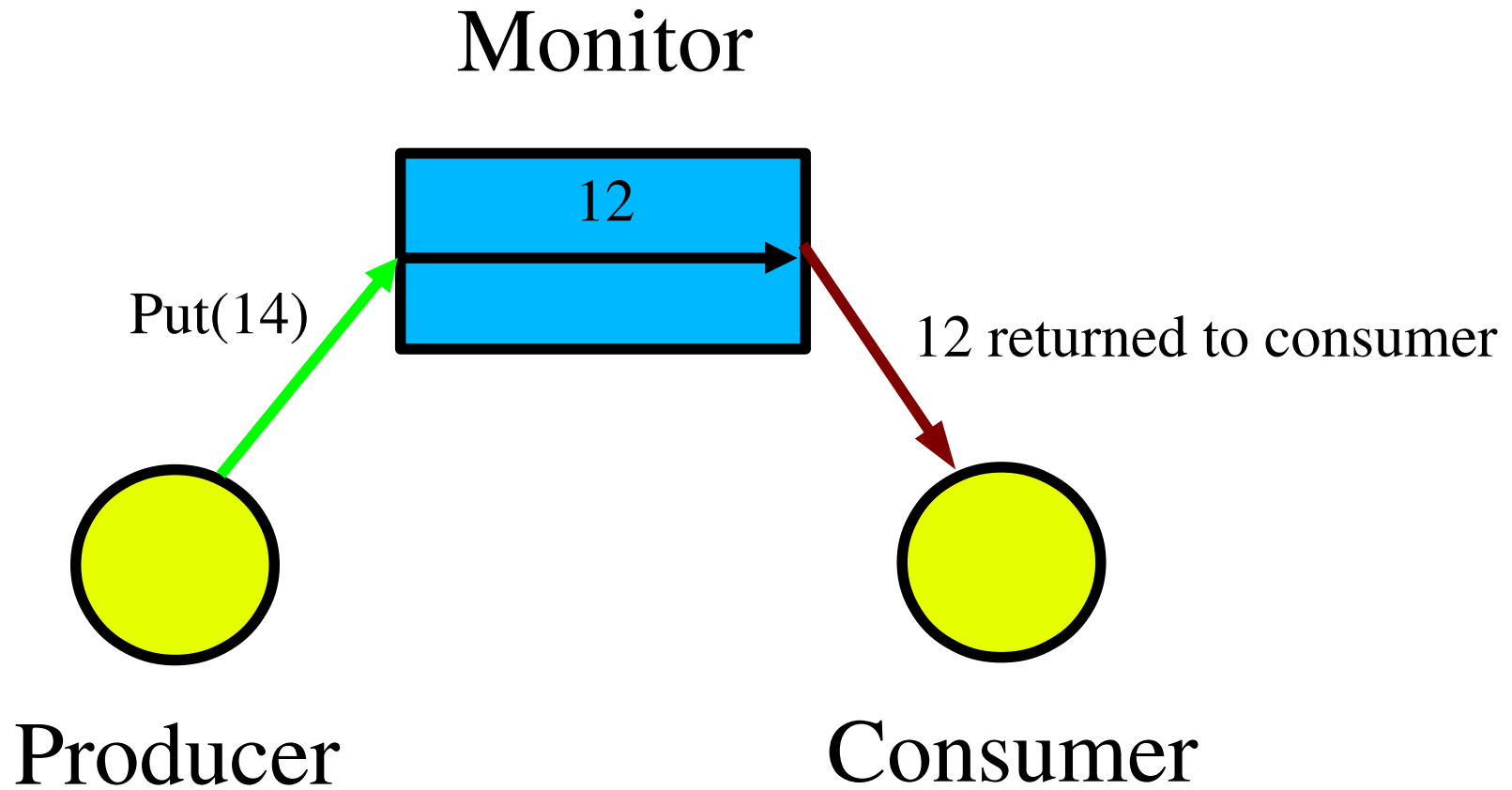


Producer's attempt fails and is suspended pending a Consumer request for the token that the Monitor currently holds (12).

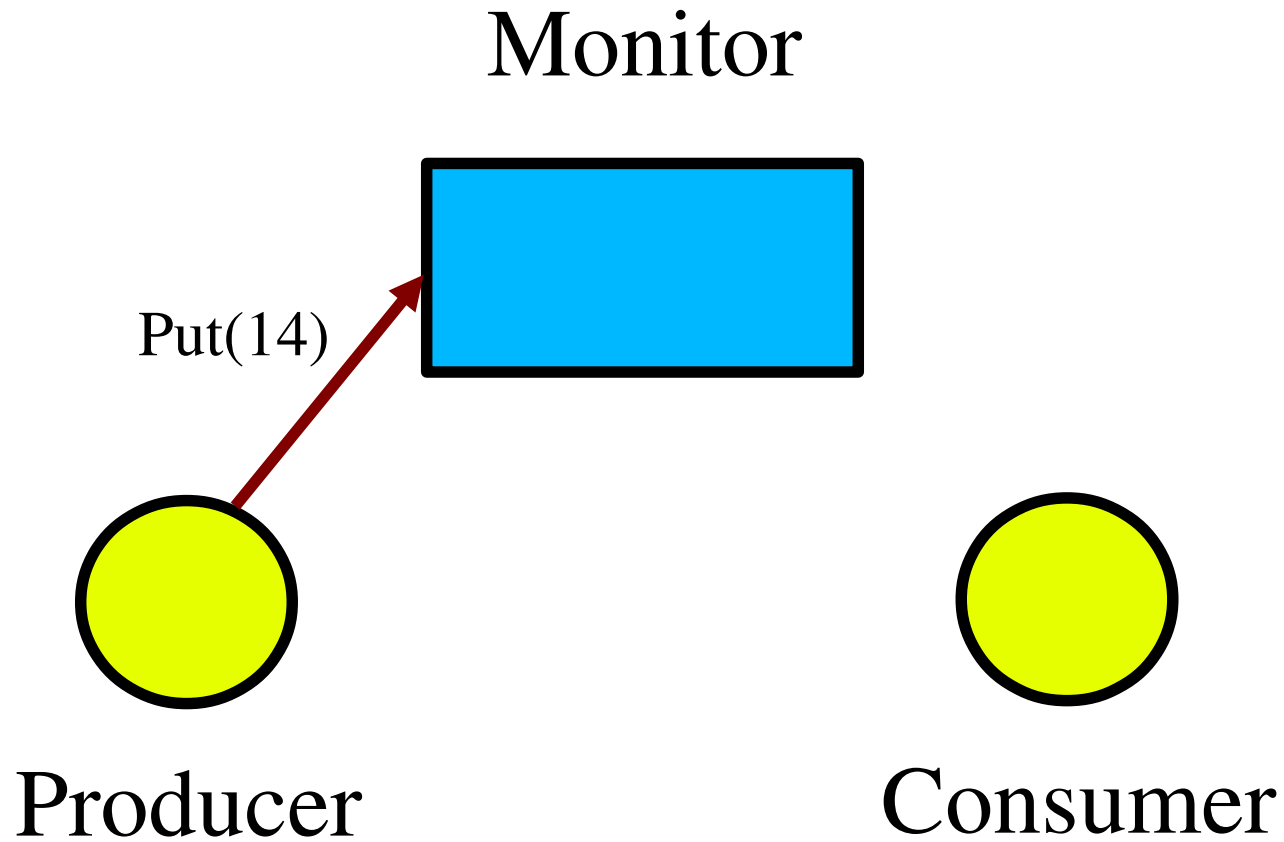
Monitor



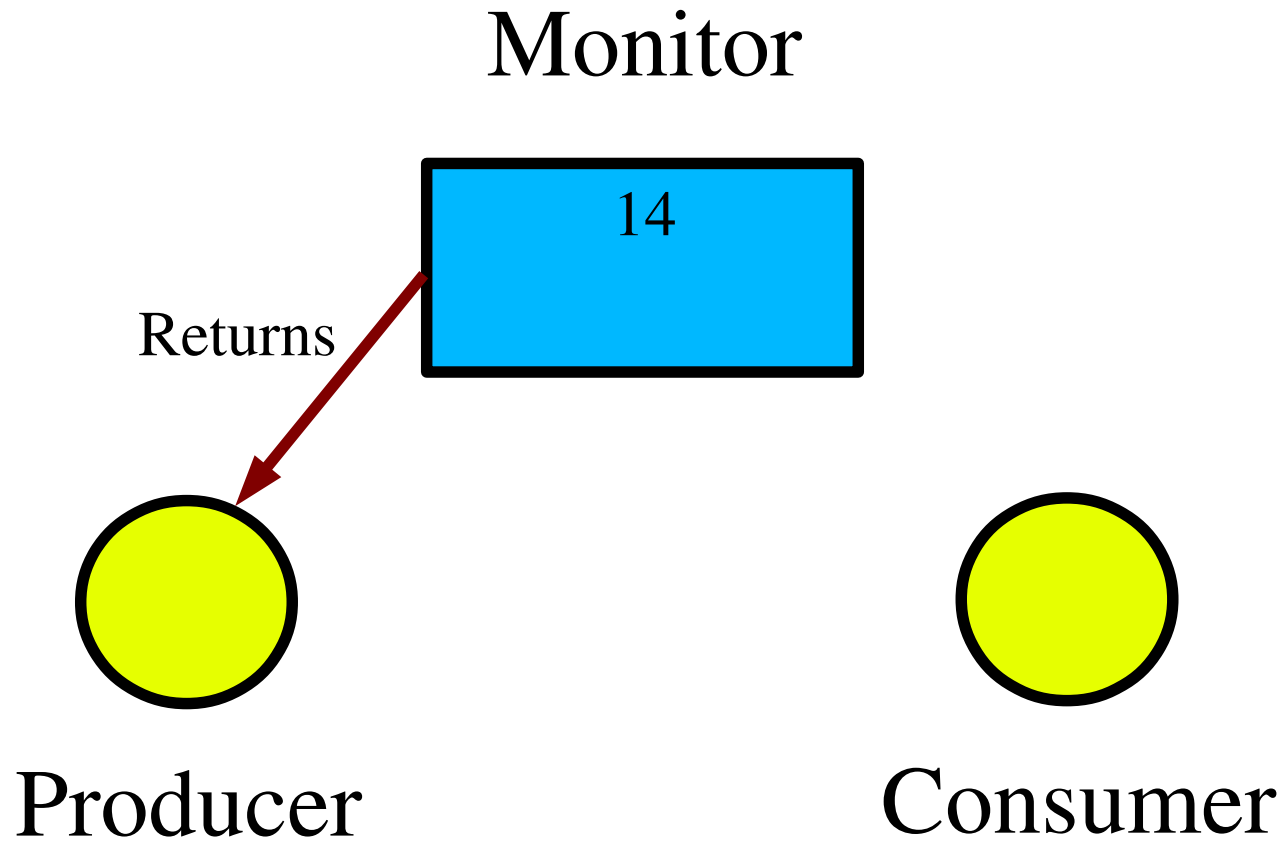
Consumer requests a token via 'get'



Monitor has a token and gives it to the Consumer
Consumer continues with its work, the token in hand

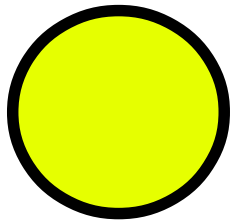
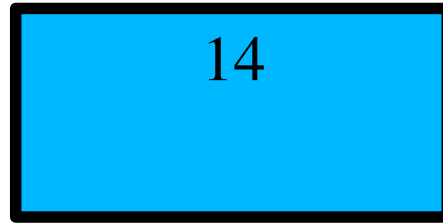


Monitor has sent its token to the Consumer and is free to accept a new one
Producer awakens to 'put' a token into the Monitor

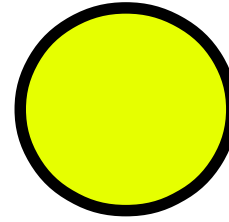


Monitor has token 14 and the Producer returns to its computing

Monitor



Producer



Consumer

Consumer may 'get' a token from the Monitor on its next attempt
Producer will be suspended if it should try to 'put' a token into the Monitor