# Notes on the Burke’s Theorem

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## Introductory notes

Burke’s Theorem asserts that for queue, queue, and queue *in steady state* with Poisson arrivals with rate then:

i) The departure process is Poisson process with rate as well

ii) At time the number of customers in the queue is independent of the departure process prior to time

## References

[The Output of a Queuing System, Paul J. Burke, Operations Research, Vol. 4, No. 6, 1956](https://github.com/dimitarpg13/queueing_theory/blob/main/literature/articles/Burkes_theorem/The_Output_of_Queueing_System_Burke_1956.pdf)

[Brownian Motion and Stochastic Flow Systems, J. Michael Harrison, Stanford, 1985](https://github.com/dimitarpg13/queueing_theory/blob/main/literature/books/Brownian_Motion_and_Stochastic_Flow_Systems_Harrison_1985.pdf)