

simulasi

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kykny harus cari2 dikit tentang cara ngembangin simulasi (?)

```
for t in periods
    replenishment = planDispatch(
        khazanah.invLevel, khazanah.capacity
        estimDemand(t=>planningHorizon),
        existingTrips
    )
    realization = execute!(khazanah, replenishment)
    append!(output, realization) # all arc from t to t+1
    fulfillDemand!(khazanah, realDemand[t])
end
```

the main point of the simulation is to follow the diagram persis kyk yg ada di BAB 1 PENDAHULUAN: bikin rencana pengiriman berdasar estimasi demand dan jaringan transportnya, terus eksekusi deh si rencananya dan terupdate semua tingkat persediaan.

di bagian eksekusi perlu diperhatiin nih workflownya dan di bagian ini kyknya semua data diambil dan dioutput jadi realisasi distribusinya.

```
function execute!(khazanah, replenishment)
    for k in khazanah
        k.invLevel = sum(r.value for r in replenishment(:,k)) + k.invLevel #
            new inv level
    end
    return outputData
end
```

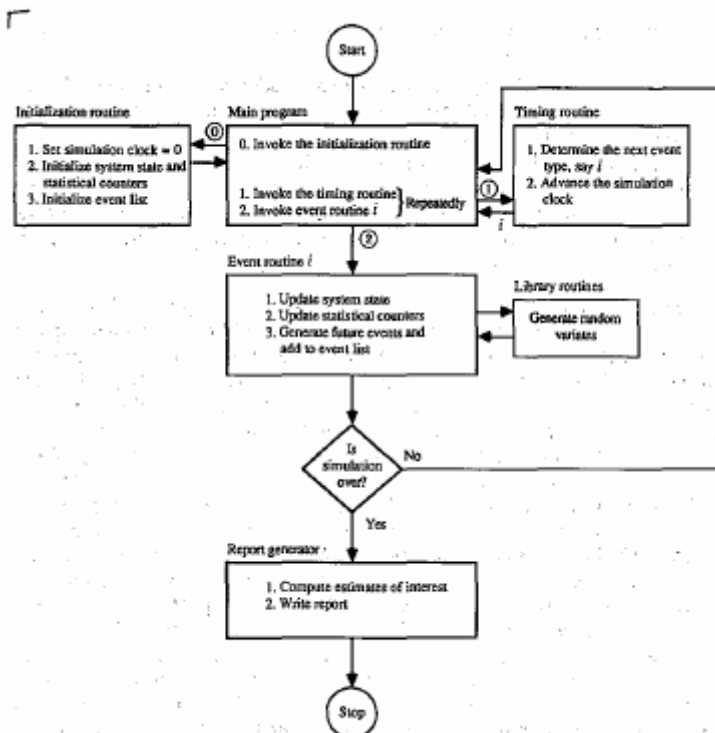
klo dari BAB 5 PENGUJIAN DAN ANALISIS salah satu parameter global simulasinya adalah panjang horizon perencanaan sama panjang rolling horizonnya

Params: step, planning horizon, rolling horizon

Accumulators: dispatch (planned + realized), inventory level, demand realization (asked + fulfilled)

START while timestep \leq step - dispatch planner plans dispatch if needed (check planned dispatch not empty) - planned dispatch starts execution (execute inventory reduction on dispatch's source) → track unfulfilled dispatch - planned dispatch ends execution (execute inventory addition on dispatch's targets) → track capacity overload - demand realized (execute inventory transfer to customer) → track lost sales - timestep + 1 STOP

ngikutin (Law and Kelton 1991), komponen simulasi ada beberapa, yaitu: - system state - simulation clock - event list - statistical counters (accumulators klo di buku yg lainnya) - initialization routine - timing routine - event routine - library routine - report generator - main program



event driven simulation flow.png

detail teknisnya dilanjut di jurnal 1 April 2022

Law, Averill M., and W. David Kelton. 1991. *Simulation Modeling and Analysis*. 2nd ed. McGraw-Hill Series in Industrial Engineering and Management Science. New York: McGraw-Hill.