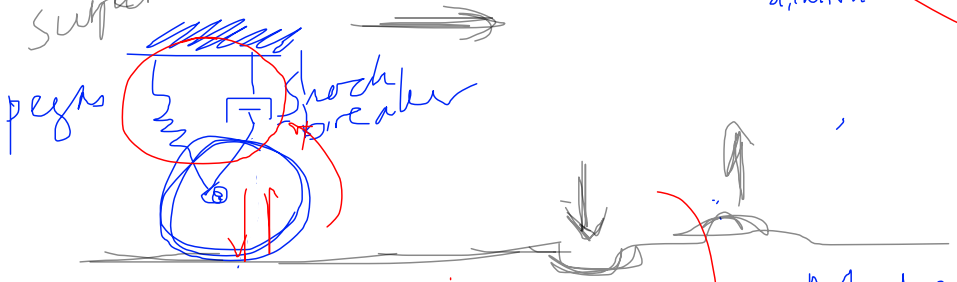
Model

FISIK — statik, dinamik

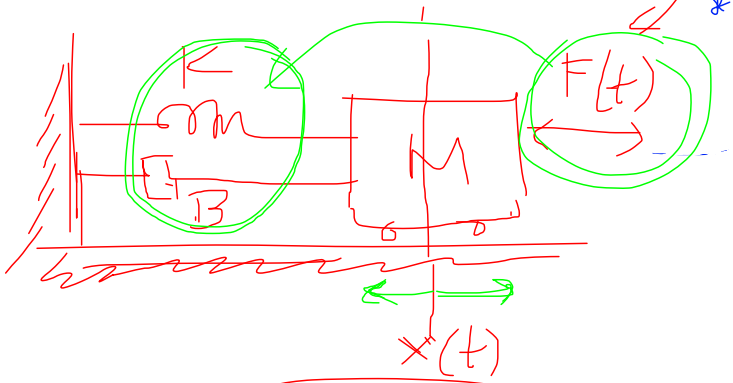
MATEMATIK — statik, Dinamik — analitik, Numerik → SIMULASI

metode KOMPUTASI NUMERIK

Sistem sederhana



model fisik dinamik
SPRING-MASS-DAMPER



→ Model Matematik DINAMIK

* Hukum NEWTON:

t = time

Persamaan Differensial:

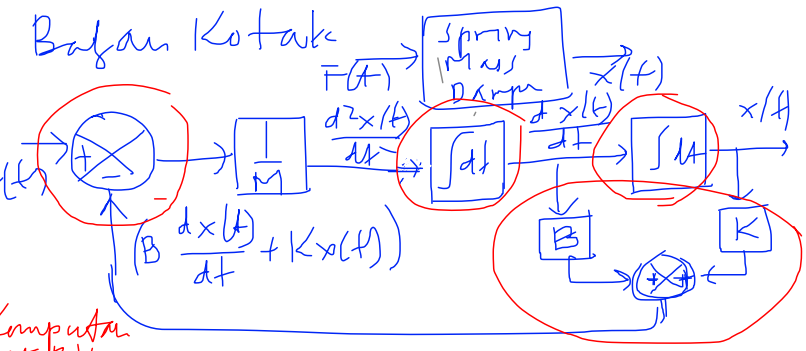
$$F(t) = M\frac{d^2x(t)}{dt^2} + B\frac{dx(t)}{dt} + K\,x(t)$$

gaya — percepatan — kecepatan — posisi

$$\frac{d^2x(t)}{dt^2} = \frac{1}{M}\left[F(t) - \left(B\frac{dx(t)}{dt} + Kx(t)\right)\right]$$

model fisik dinamik
Rangkaian Elektronik

* Bagan Kotak



METODE KOMPUTASI NUMERIK

PROGRAM SIMULASI

Metode Komputasi NUMERIK