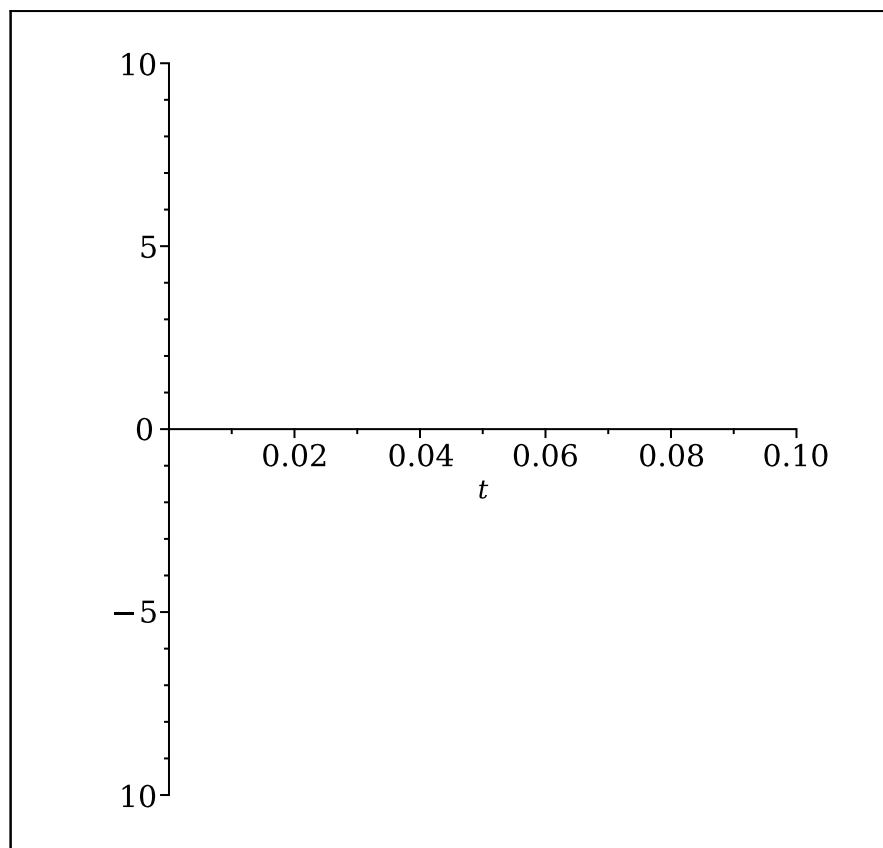


$$\begin{aligned} &> B(t) := A * \cos(\Omega * t) \\ &B(t) \text{ d } A \cos(Wt) \end{aligned} \quad (1)$$

$$\begin{aligned} &> eq := \text{diff}(x(t), t, t) + 2 * \text{delta} * \text{diff}(x(t), t) + \omega^2 * x(t) = \\ &B(t) \\ &eq \text{ d } \frac{d^2}{dt^2} x(t) + 2 \frac{d}{dt} x(t) + \omega^2 x(t) = A \cos(Wt) \end{aligned} \quad (2)$$

$$\begin{aligned} &> sol := \text{dsolve}(\{eq, x(0) = x0, D(x)(0) = v0\}, x(t)) \\ sol \text{ d } x(t) = &L \left(e^{\left(L dC \sqrt{d^2 L w^2} \right) t} \left(w^2 C d \left(L dC \sqrt{d^2 L w^2} \right) \right) \left(w^4 x0 C \left(L x0 W^2 \right. \right. \right. \\ &L \sqrt{d^2 L w^2} v0 C v0 dL A \Big) w^2 C \left(2 dx0 C v0 \right) \left(dC \sqrt{d^2 L w^2} W^2 \right) \Big) \Big/ \\ &\left(4 \left(d \sqrt{d^2 L w^2} L \frac{W^2}{2} L d^2 C \frac{W^2}{2} \right) w^2 (dC w) (dL w) \right) C \left(e^{\left(L dL \sqrt{d^2 L w^2} \right) t} \left(\right. \right. \\ &L w^2 C d \left(dC \sqrt{d^2 L w^2} \right) \Big) \left(L w^4 x0 C \left(x0 W^2 L \sqrt{d^2 L w^2} v0 L v0 dC A \right) w^2 \right. \\ &C \left(2 dx0 C v0 \right) W^2 \left(L dC \sqrt{d^2 L w^2} \right) \Big) \Big) \Big/ \left(4 w^2 (dC w) (dL w) \left(d \sqrt{d^2 L w^2} C \frac{W^2}{2} \right. \right. \\ &C d^2 L \frac{W^2}{2} \Big) \Big) L \frac{A \left(L 2 \sin(Wt) W dC W^2 \cos(Wt) L \cos(Wt) w^2 \right)}{W^4 C 4 W^2 d^2 L 2 W^2 w^2 C w^4} \end{aligned} \quad (3)$$

>
> Explore(plot(op(2, sol), t=0..T))



A  7.01
0.1 3.4 6.7 10.0

W  5.54
0.1 3.4 6.7 10.0

T  0.1
0.1 3.4 6.7 10.0

d  0.1
0.1 3.4 6.7 10.0

w  0.1
0.1 3.4 6.7 10.0

v0  0.1
0.1 3.4 6.7 10.0

x0  0.1
0.1 3.4 6.7 10.0

[> restart
=>