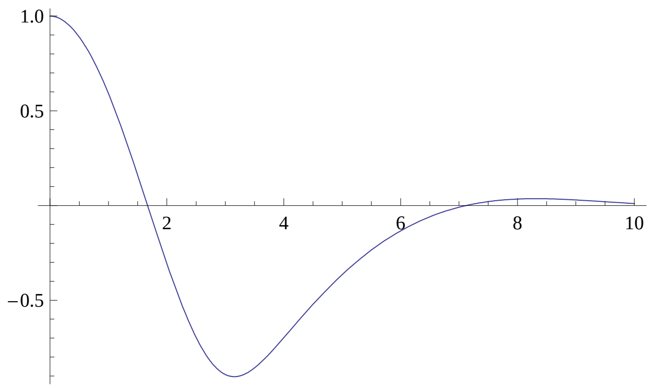
In[1]:= **b = NDSolve[{y''[t] + (y'[t] + 1)$^2$ * y'[t] + y[t] == 0, y[0] == 1, y'[0] == 0}, y[t], {t, 0, 10}]**

Out[1]= {{y[t] → InterpolatingFunction[{{0., 10.}}, <>][t]}}

In[2]:= **Plot[Evaluate[y[t] /. b], {t, 0, 10}]**

Out[2]=




In[3]:= **DSolve[{L * Q''[t] + R * Q'[t] + $\frac{1}{C}$ * Q[t] == $V_0 * e^{j*\omega*t}$}, Q[t], t]**

Out[3]=

$$\Big\{\Big\{Q[t] \to e^{\frac{\left(-C R-\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}}\, C[1] + e^{\frac{\left(-C R+\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}}\, C[2] -$$

$$\Bigg(2 C L \Bigg(\sqrt{C}\, e^{\frac{\left(-C R+\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}+\frac{t\left(R-\frac{\sqrt{-4 L+C R^2}}{\sqrt{C}}+2 j L \omega\right)}{2 L}}\, R - \sqrt{C}\, e^{\frac{\left(-C R-\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}+\frac{t\left(R+\frac{\sqrt{-4 L+C R^2}}{\sqrt{C}}+2 j L \omega\right)}{2 L}}\, R +$$

$$e^{\frac{\left(-C R+\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}+\frac{t\left(R-\frac{\sqrt{-4 L+C R^2}}{\sqrt{C}}+2 j L \omega\right)}{2 L}} \sqrt{-4 L+C R^2} + e^{\frac{\left(-C R-\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}+\frac{t\left(R+\frac{\sqrt{-4 L+C R^2}}{\sqrt{C}}+2 j L \omega\right)}{2 L}} \sqrt{-4 L+C R^2} +$$

$$2 \sqrt{C}\, e^{\frac{\left(-C R+\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}+\frac{t\left(R-\frac{\sqrt{-4 L+C R^2}}{\sqrt{C}}+2 j L \omega\right)}{2 L}}\, j L \omega - 2 \sqrt{C}\, e^{\frac{\left(-C R-\sqrt{C}\,\sqrt{-4 L+C R^2}\right) t}{2 C L}+\frac{t\left(R+\frac{\sqrt{-4 L+C R^2}}{\sqrt{C}}+2 j L \omega\right)}{2 L}}\, j L \omega\Bigg) V_0\Bigg) \Big/$$

$$\left(\sqrt{-4 L+C R^2}\,\left(-\sqrt{C}\, R+\sqrt{-4 L+C R^2}-2 \sqrt{C}\, j L \omega\right)\left(\sqrt{C}\, R+\sqrt{-4 L+C R^2}+2 \sqrt{C}\, j L \omega\right)\right)\Big\}\Big\}$$