



## On zeros of solutions of the second order singular nonlinear differential equation

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We investigate the second order differential equation

$$(p(t)u'(t))' = p(t)f(u(t)), \quad t \in (0, \infty),$$

which has a singularity at  $t = 0$ . The nonlinearity  $f$  is Lipschitz continuous and has at least two zeros. Solutions starting in the given interval are studied and described. The main attention is paid to oscillatory solutions and to monotonous solutions. Various conditions which guarantee the existence of oscillatory solutions are discussed. Conditions giving positive (negative) solutions are shown, as well. These results are completed by asymptotic formulas for all types of bounded solutions.