

## delay\_2.gce

### Attributes

```
mainvars: x y
rparms: t_delay=1
```

### Description

`delay_2.gce` is used to get an output  $y$  which is a delayed form of  $x$ . The real parameter `t_delay` specifies the amount of delay. If the input is a square wave from 0 to  $V_0$ , then the output waveform resembles an  $RC$  circuit response and goes through  $V_0/2$  at a time `t_delay` after the clock edge. This is illustrated in Fig. 1 for the circuit file shown below.

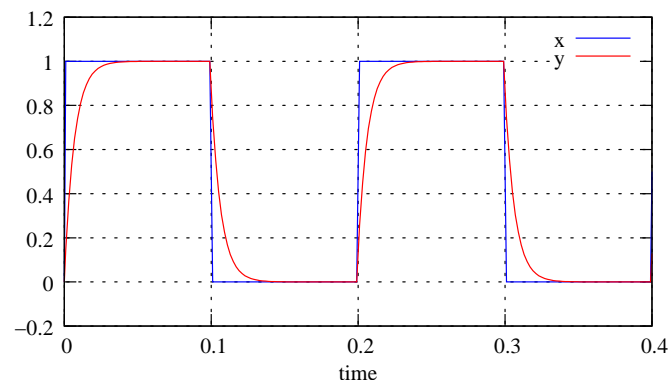


Figure 1: Waveforms obtained with `delay_2.gce`.

```

title: testing of delay_2.gce

begin_circuit
    gelement type=clock_1 y=x1 g_high=1
+     frequency=5 dt1=0.001 dt2=0.001 t0=0
+     duty_cycle=0.5

    gelement type=delay_2 x=x1 y=y1 t_delay=0.004

    outvar:
+     x1=var_of_x1
+     y1=var_of_y1
end_circuit

begin_solve
    solve_type=startup
    initial_sol initialize
end_solve

begin_solve
    solve_type=trns
    initial_sol previous
    begin_output
        filename=delay_2_gce.dat limit_lines=10000
        variables: x1 y1
    end_output
    method: itmax_trns=10000
+     back_euler=yes
+     t_start=0 t_end=0.6 delt_const=0.002 delt_min=0.001
+     n_wrtiterno=1000
end_solve

end_cf

```

AC behaviour is not implemented.