



```
// Testbench
`timescale 1ns/1ps
module first_system_tb;
reg i1t,i2t;
wire o1t,o2t;
first_system UUT(.o1(o1t),.o2(o2t),.i1(i1t),.i2(i2t));
initial begin
    i1t = 0;
    i2t = 0;
    #100;
    repeat(4)
        #100 {i1t, i2t} = {i1t, i2t} + 1'b1;
end
endmodule
~
~
~
~
~
~
~
```

```
// 2.6 Heirarchical Module Representation
```

```
module and_module(and_out,i1,i2);
input i1,i2;
output and_out;
assign and_out = i1 & i2;
endmodule

module or_module(or_out,i1,i2);
input i1,i2;
output or_out;
assign or_out = i1 | i2;
endmodule

module first_system(o1,o2,i1,i2);
input i1,i2;
output o1,o2;
wire and_out, or_out;
and_module U1(.and_out(and_out),.i1(i1),.i2(i2));
or_module U2(.or_out(or_out),.i1(i1),.i2(i2));
assign o1 = and_out ^ or_out;
assign o2 = ~ i2;
endmodule
```

▼ Design Sources (1)

▼ ● **first_system_tb** (testbench.v) (1)

▼ ● UUT : first_system (homework1.v) (2)

● U1 : and_module (homework1.v)

● U2 : or_module (homework1.v)

> Constraints

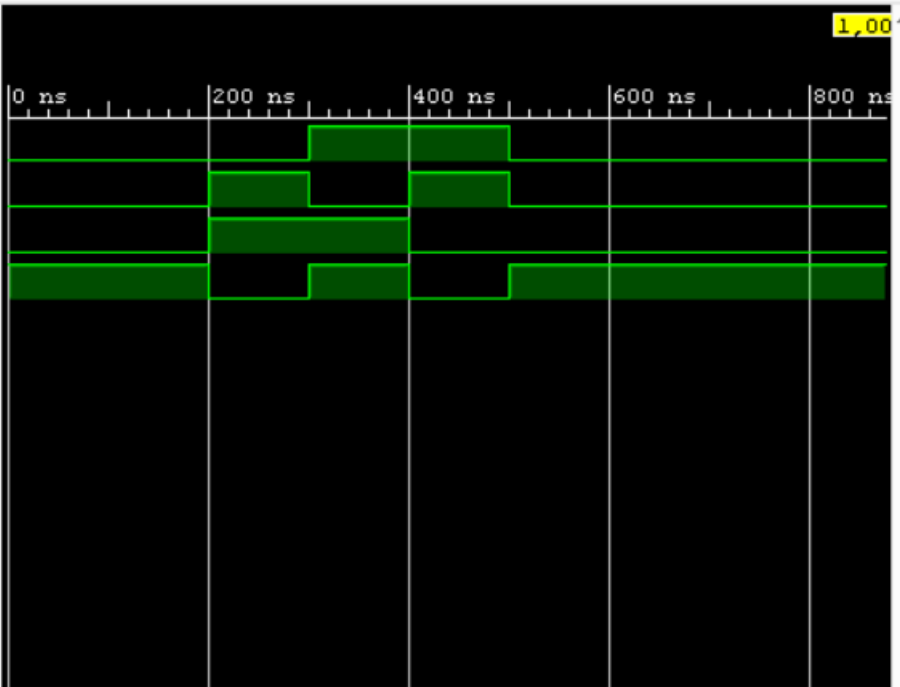
▼ Simulation Sources (1)

▼ sim_1 (1)

▼ ● **first_system_tb** (testbench.v) (1)

> ● UUT : first_system (homework1.v) (2)

Name	Value
i1t	0
i2t	0
o1t	0
o2t	1



1,00 ^