

1. Half Adder

test_project_1 - [C:/Users/apatra/Vivado/test_project_1/test_project_1.xpr] - Vivado 2019.2

File Edit Flow Tools Reports Window Layout View Run Help Quick Access

100 ns

Default Layout

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SIMULATION - Behavioral Simulation - Functional - sim_1 - y

Scope

| Name | Design U... | Block Type |
|------|-------------|----------------|
| y | y | Verilog Module |
| gbl | gbl | Verilog Module |

Objects

| Name | Value | Data Type |
|-------|-------|-----------|
| a | 0 | Logic |
| b | 0 | Logic |
| sum | 0 | Logic |
| carry | 0 | Logic |

Tcl Console

```
add_force (/y/a) -radix hex (0 0ns) (1 50000ps) -repeat_every 100000ps
add_force (/y/b) -radix hex (0 0ns) (1 25000ps) -repeat_every 50000ps
run 100 ns
```

Type a Tcl command here

Sim Time: 1100 ns

y.v

```
// Dependencies:
// Revision:
// Revision 0.01 - File Created
// Additional Comments:
//
module y(
    input a,b,
    output sum,carry
);
    assign sum = a^b;
    assign carry = a&b;
endmodule
```

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y.v

```
// Dependencies:
// Revision:
// Revision 0.01 - File Created
// Additional Comments:
//
module y(
    input a,b,
    output sum,carry
);
    assign sum = a^b;
    assign carry = a&b;
endmodule
```

Waveform Viewer

| Name | Value |
|-------|-------|
| a | 0 |
| b | 0 |
| sum | 0 |
| carry | 0 |

1,000,000 ns 1,050,000 ns 1,100,000 ns

2. Full Adder

test_project_1 - [C:/Users/apatra/Vivado/test_project_1/test_project_1.xpr] - Vivado 2019.2

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100 ns

Ready

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Scope

| Name | Design U... | Block Type |
|------|-------------|----------------|
| y | y | Verilog Module |
| gbl | gbl | Verilog Module |

Objects

| Name | Value | Data Type |
|-------|-------|-----------|
| a | 0 | Logic |
| b | 0 | Logic |
| c | 0 | Logic |
| sum | 0 | Logic |
| carry | 0 | Logic |

Objects

Protocol Inst

y.v

```
// Dependencies:
//
// Revision:
// Revision 0.01 - File Created
// Additional Comments:
//
//
module y(
    input a,b,c,
    output sum,carry
);
    assign sum = a^b^c;
    assign carry = (a&b)|(b&c)|(a&c);
endmodule
```

Tcl Console

```
add_force [/y/b] -radix hex [0 0ns] [1 25000ps] -repeat_every 50000ps
add_force [/y/c] -radix hex [0 0ns] [1 12500ps] -repeat_every 25000ps
run 100 ns
```

Type a Tcl command here

Sim Time: 1100 ns

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Objects

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|-------|-------|-----------|
| a | 0 | Logic |
| b | 0 | Logic |
| c | 0 | Logic |
| sum | 0 | Logic |
| carry | 0 | Logic |

Objects

Protocol Inst

y.v

```
Name Value
a 0
b 0
c 0
sum 0
carry 0
```

Tcl Console

```
add_force [/y/b] -radix hex [0 0ns] [1 25000ps] -repeat_every 50000ps
add_force [/y/c] -radix hex [0 0ns] [1 12500ps] -repeat_every 25000ps
run 100 ns
```

Type a Tcl command here

Sim Time: 1100 ns