

### 2 Input Multiplexer

| Name | Value | 0 ns | 50 ns | 100 ns | 150 ns | 200 ns |
|------|-------|------|-------|--------|--------|--------|
| In0  | 0     |      |       |        |        |        |
| In1  | 1     |      |       |        |        |        |
| s    | 1     |      |       |        |        |        |
| Z    | 1     |      |       |        |        |        |

### 4 Input Multiplexer

| Name | Value | 0 ns | 100 ns | 200 ns | 300 ns |
|------|-------|------|--------|--------|--------|
| In0  | 0     |      |        |        |        |
| In1  | 1     |      |        |        |        |
| In2  | 0     |      |        |        |        |
| In3  | 1     |      |        |        |        |
| S0   | 1     |      |        |        |        |
| S1   | 1     |      |        |        |        |
| Z    | 1     |      |        |        |        |

### 16 Bit 2 Input Multiplexer

| Name      | Value | 0 ns | 50 ns | 100 ns | 150 ns | 200 ns | 250 ns |
|-----------|-------|------|-------|--------|--------|--------|--------|
| In0[15:0] | 0000  |      |       |        | 0000   |        |        |
| In1[15:0] | 1111  |      |       |        | 1111   |        |        |
| s         | 1     |      |       |        |        |        |        |
| Z[15:0]   | 1111  |      |       |        |        |        |        |

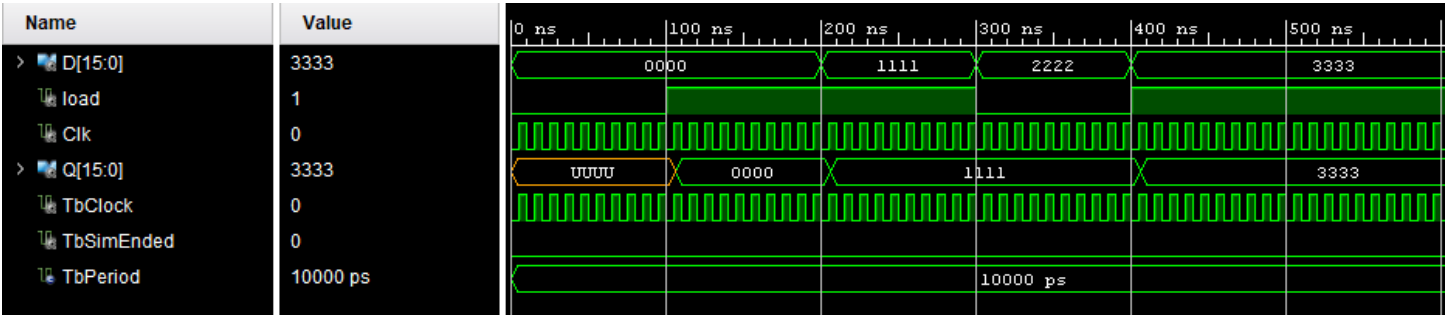
### 16 Bit 8 Input Multiplexer

| Name        | Value | 0 ns | 200 ns | 400 ns | 600 ns | 800 ns |      |      |      |
|-------------|-------|------|--------|--------|--------|--------|------|------|------|
| > In0[15:0] | 0000  | 0000 |        |        |        |        |      |      |      |
| > In1[15:0] | 1111  | 1111 |        |        |        |        |      |      |      |
| > In2[15:0] | 2222  | 2222 |        |        |        |        |      |      |      |
| > In3[15:0] | 3333  | 3333 |        |        |        |        |      |      |      |
| > In4[15:0] | 4444  | 4444 |        |        |        |        |      |      |      |
| > In5[15:0] | 5555  | 5555 |        |        |        |        |      |      |      |
| > In6[15:0] | 6666  | 6666 |        |        |        |        |      |      |      |
| > In7[15:0] | 7777  | 7777 |        |        |        |        |      |      |      |
| S0          | 1     |      |        |        |        |        |      |      |      |
| S1          | 1     |      |        |        |        |        |      |      |      |
| S2          | 1     |      |        |        |        |        |      |      |      |
| > Z[15:0]   | 7777  | 0000 | 1111   | 2222   | 3333   | 4444   | 5555 | 6666 | 7777 |

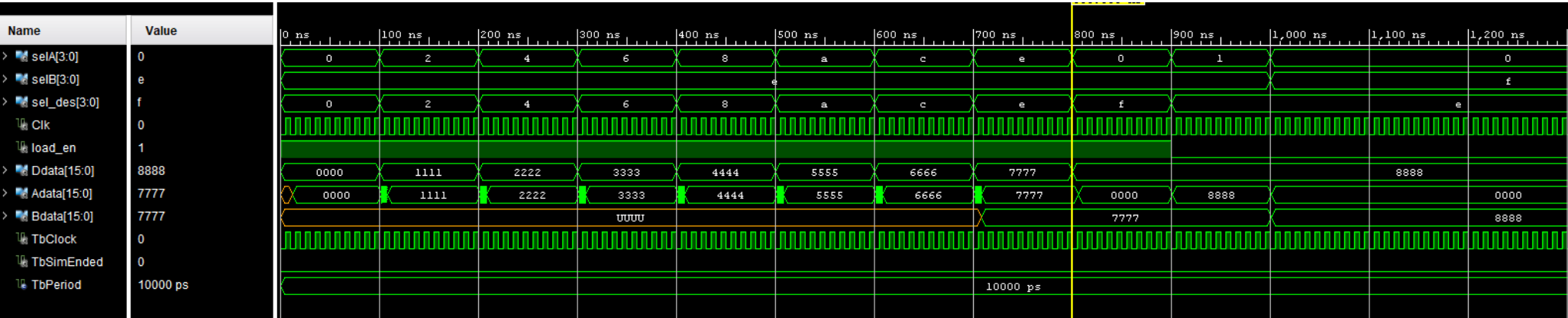
### 3 To 8 Decoder

| Name | Value | 0 ns | 200 ns | 400 ns | 600 ns |
|------|-------|------|--------|--------|--------|
| A0   | 1     |      |        |        |        |
| A1   | 1     |      |        |        |        |
| A2   | 1     |      |        |        |        |
| Q0   | 0     |      |        |        |        |
| Q1   | 0     |      |        |        |        |
| Q2   | 0     |      |        |        |        |
| Q3   | 0     |      |        |        |        |
| Q4   | 0     |      |        |        |        |
| Q5   | 0     |      |        |        |        |
| Q6   | 0     |      |        |        |        |
| Q7   | 1     |      |        |        |        |

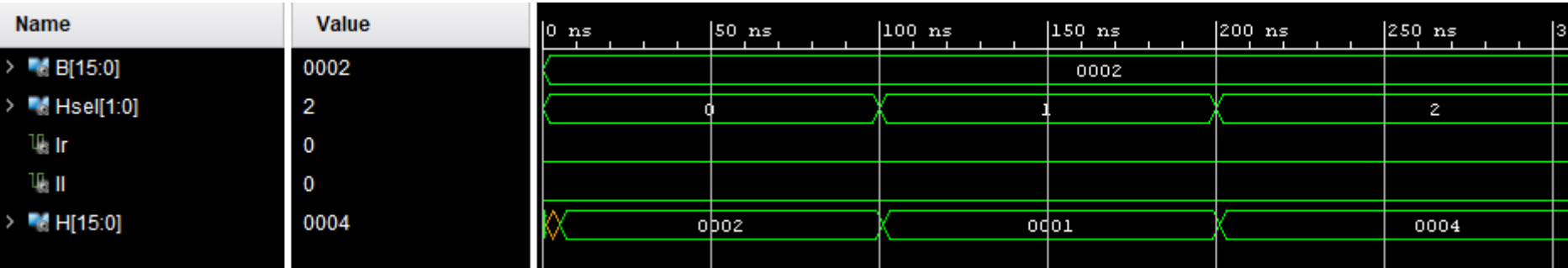
Register



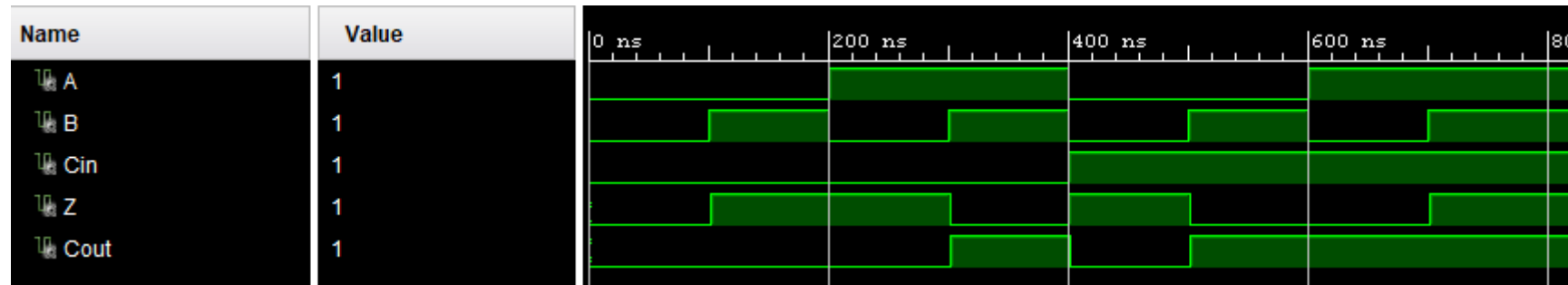
Register File



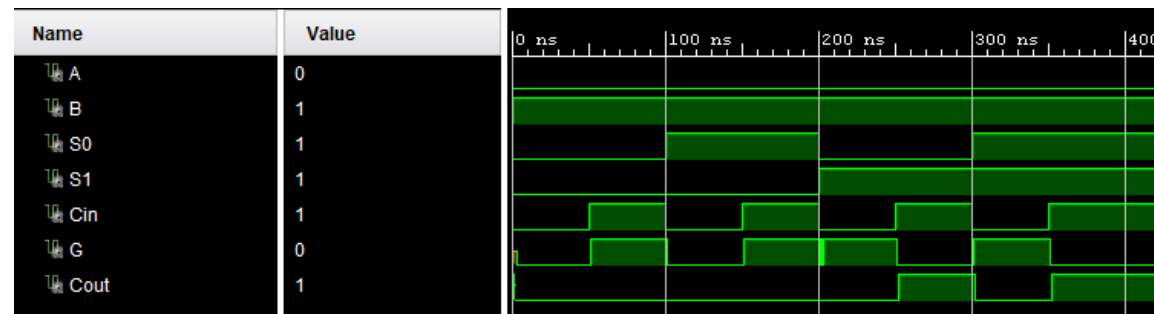
Shifter



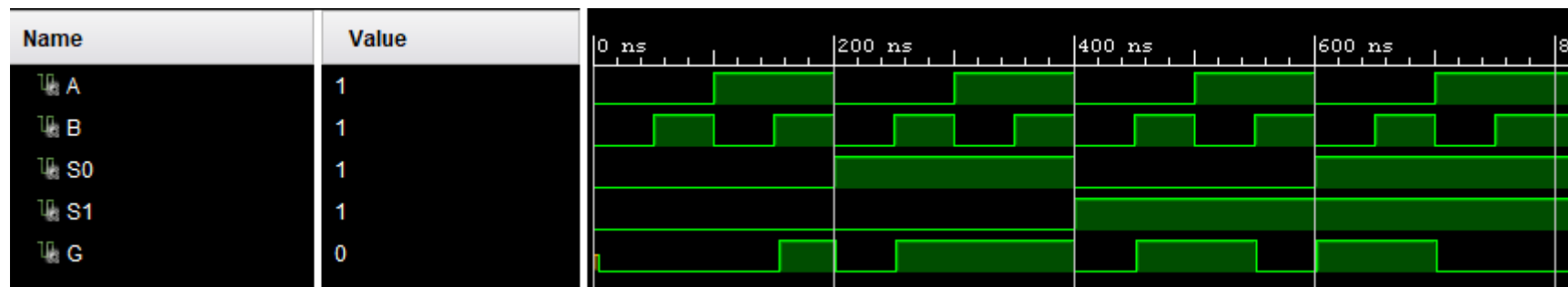
### Full Adder



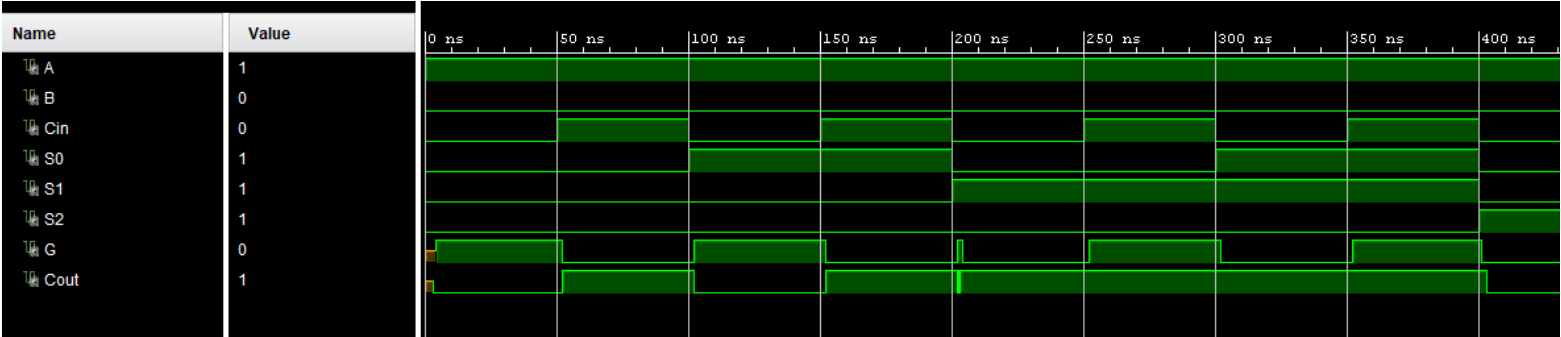
### Arithmetic Bit Slice



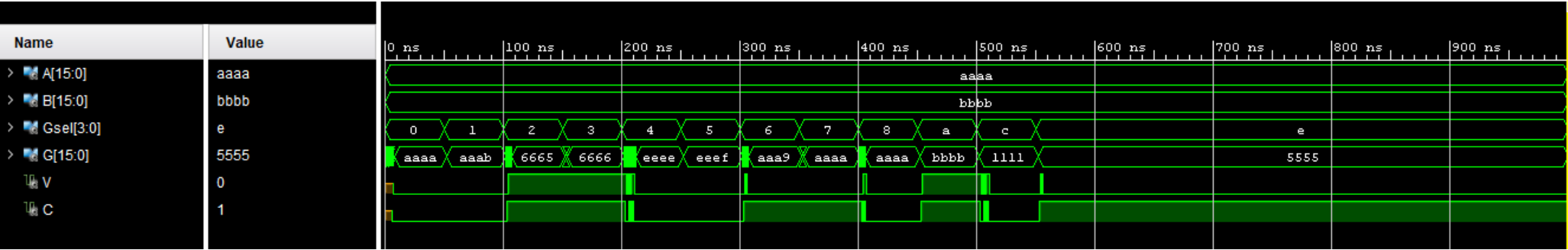
### Logic Bit Slice



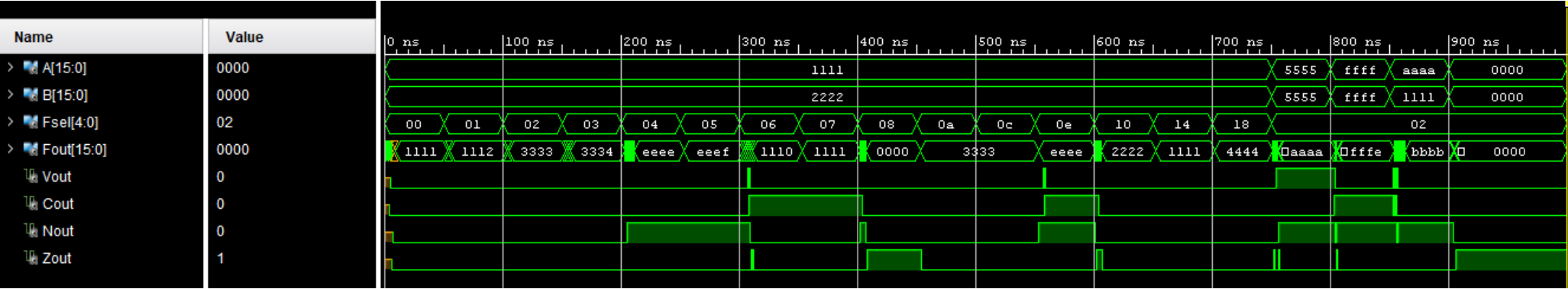
ALU Bit Slice



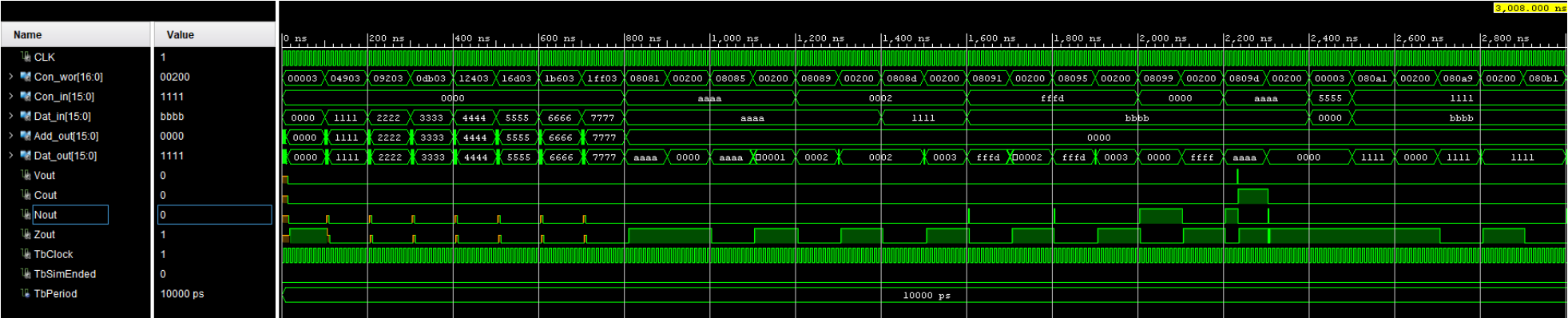
ALU



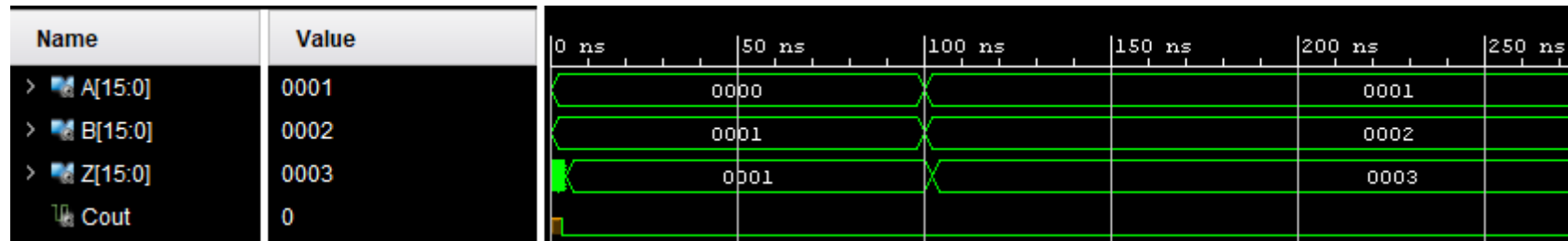
Functional Unit



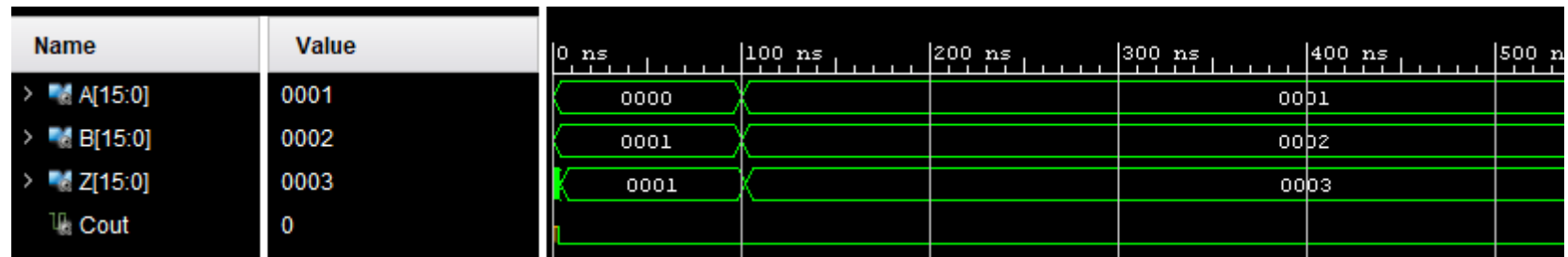
Datapath



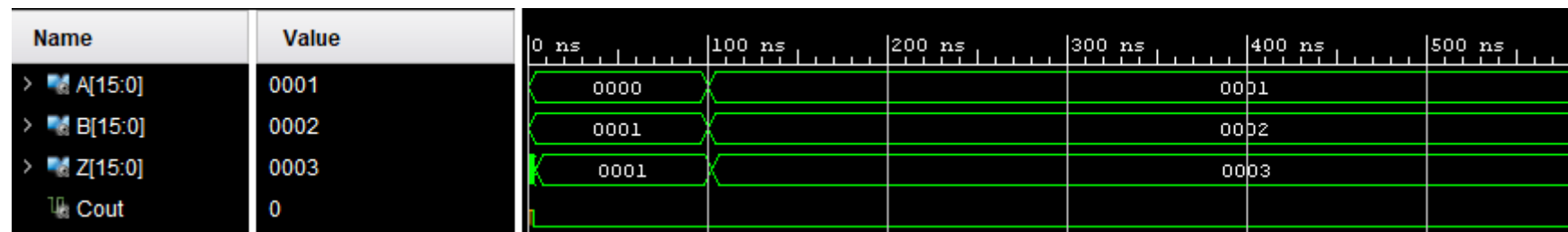
### 16 Bit Adder



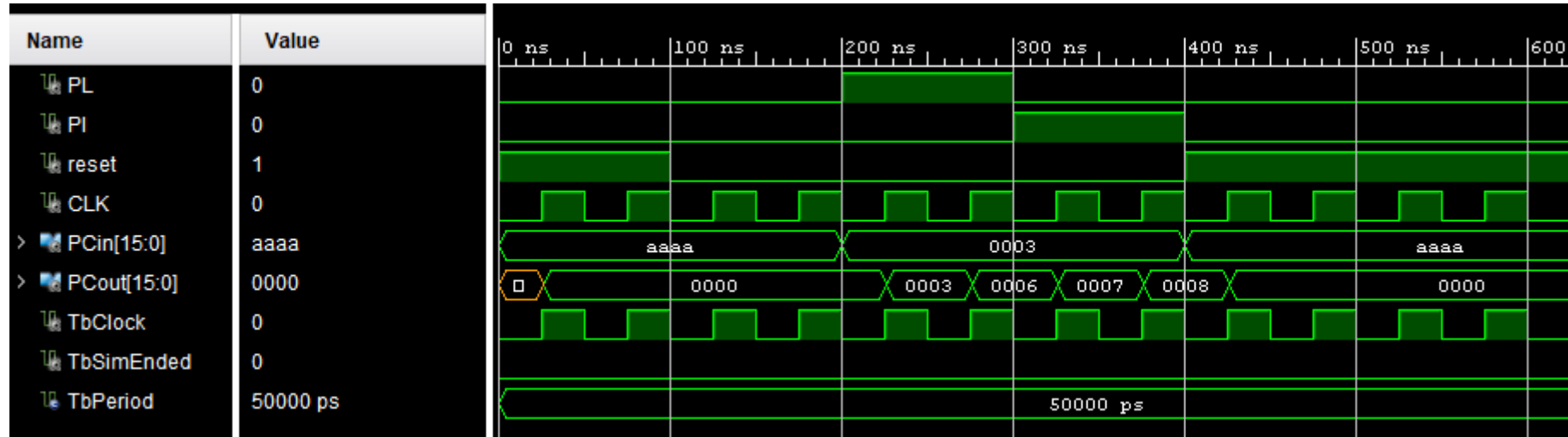
### Control Address Register



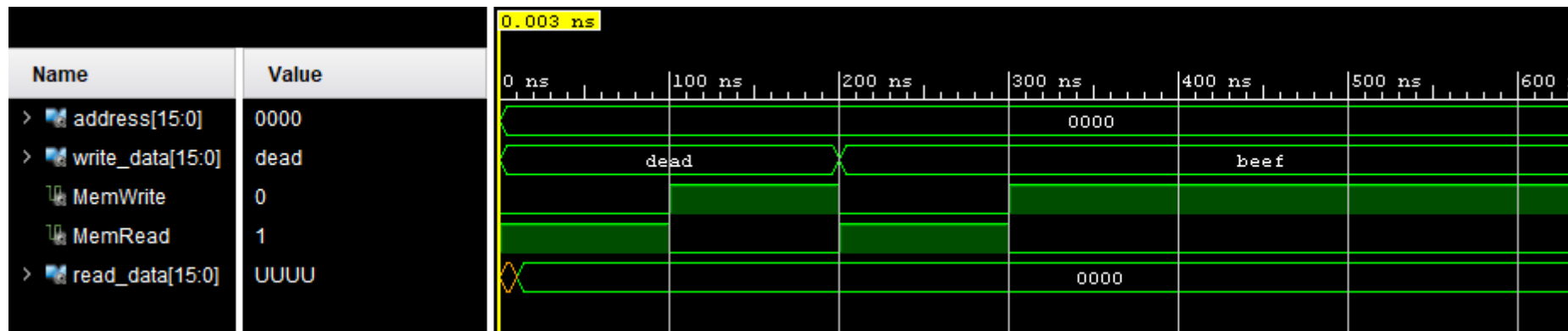
### Instruction Register



## Program Counter



## Memory





## Control Memory

