

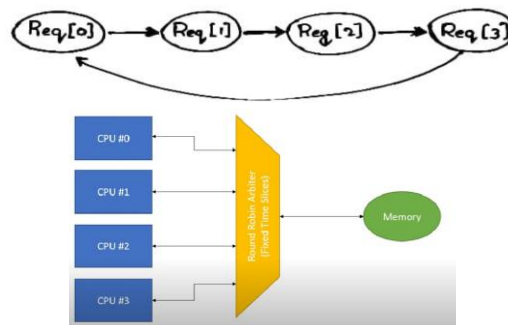


DAY-50

#100DAYSRTL

“Aim”:- To design a Round Robin Arbiter

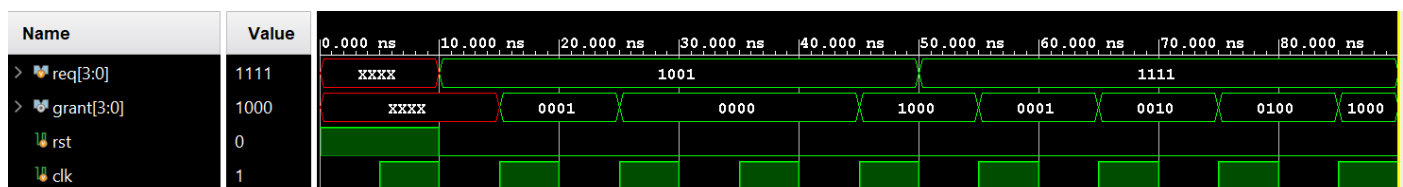
“Theory”:-



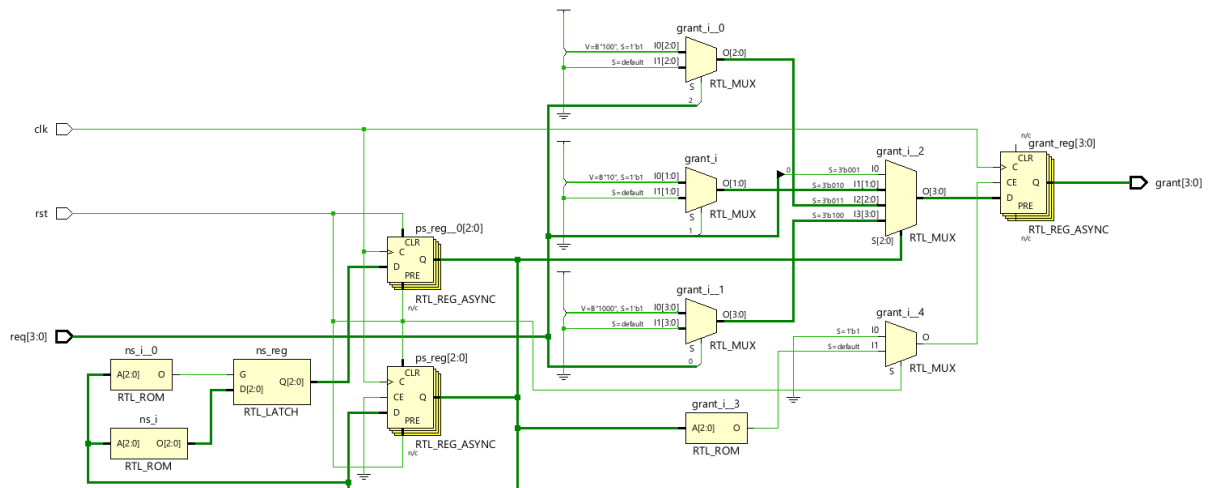
- An arbiter in which the priority of requests is set in which all the requested agents get equal sharing of access is called Round Robin Arbiter
- **“Design Code”:-**

```
module RRA(clk,rst,req,grant);
input clk,rst;input [3:0] req;output reg [3:0] grant;
reg [2:0] ps,ns;
parameter state1=3'd1,state2=3'd2,state3=3'd3,state4=3'd4;
always @(*) begin
case (ps)
state1:ns<=state2;
state2:ns<=state3;
state3:ns<=state4;
state4:ns<=state1;
endcase
end
always @(posedge clk or posedge rst) begin
if(rst) ps<=state1; else ps<=ns; end
always @(posedge clk or posedge rst) begin
if (rst) ps<=state1; else begin
case (ps)
state1:begin if(req[0])grant<=4'b0001;
else grant<=4'b0000;
end
state2:begin if(req[1])grant<=4'b0010;
else grant<=4'b0000;
end
state3:begin if(req[2])grant<=4'b0100;
else grant<=4'b0000;
end
state4:begin if(req[0])grant<=4'b1000;
else grant<=4'b0000;
end
endcase
end
end
endmodule
```

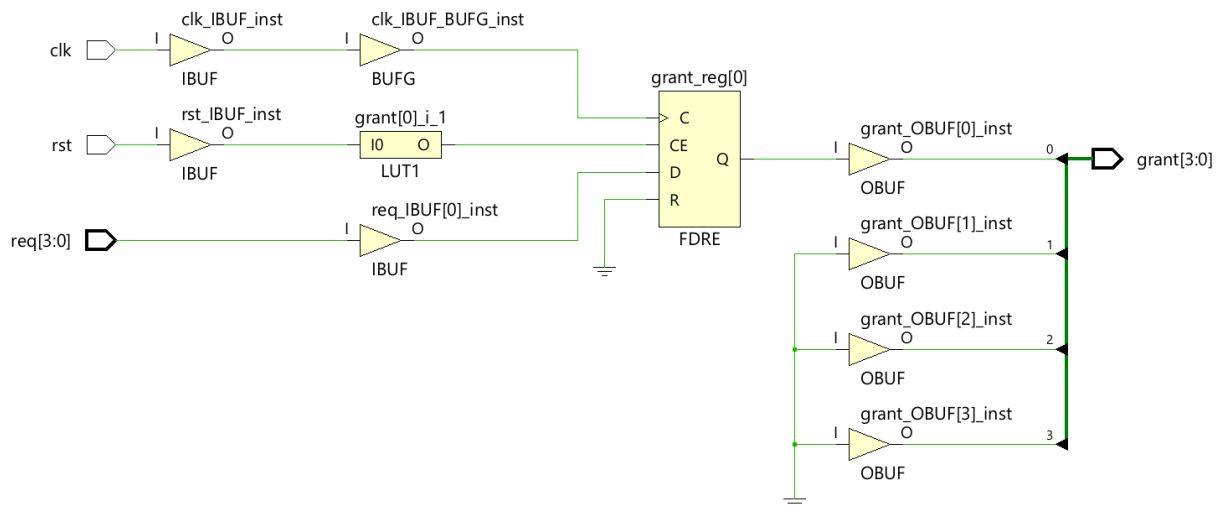
“Waveforms”:-



“Elaborated design”:-



“Implemented design”:-



Summary

Power analysis from Implemented netlist. Activity derived from constraints files, simulation files or vectorless analysis.

Total On-Chip Power:	0.346 W
Design Power Budget:	Not Specified
Power Budget Margin:	N/A
Junction Temperature:	25.7°C
Thermal Margin:	59.3°C (31.3 W)
Effective θ_{JA} :	1.9°C/W
Power supplied to off-chip devices:	0 W
Confidence level:	Low

[Launch Power Constraint Advisor](#) to find and fix invalid switching activity

On-Chip Power

