Lab 7

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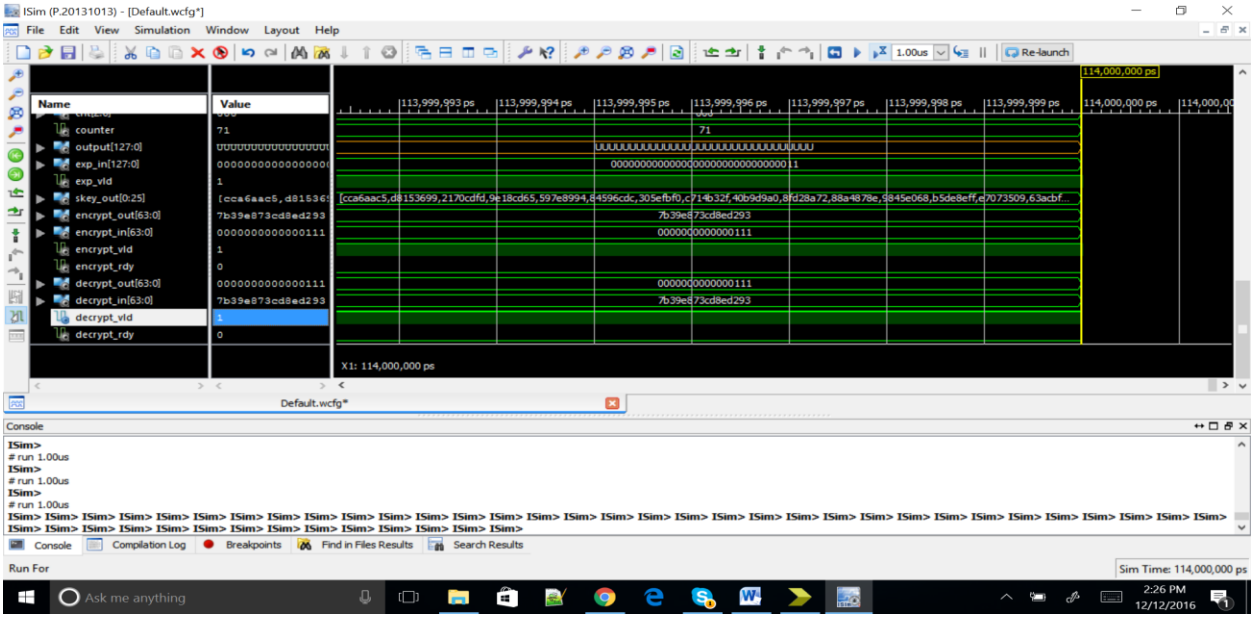
Functional Simulation:

Test Case:

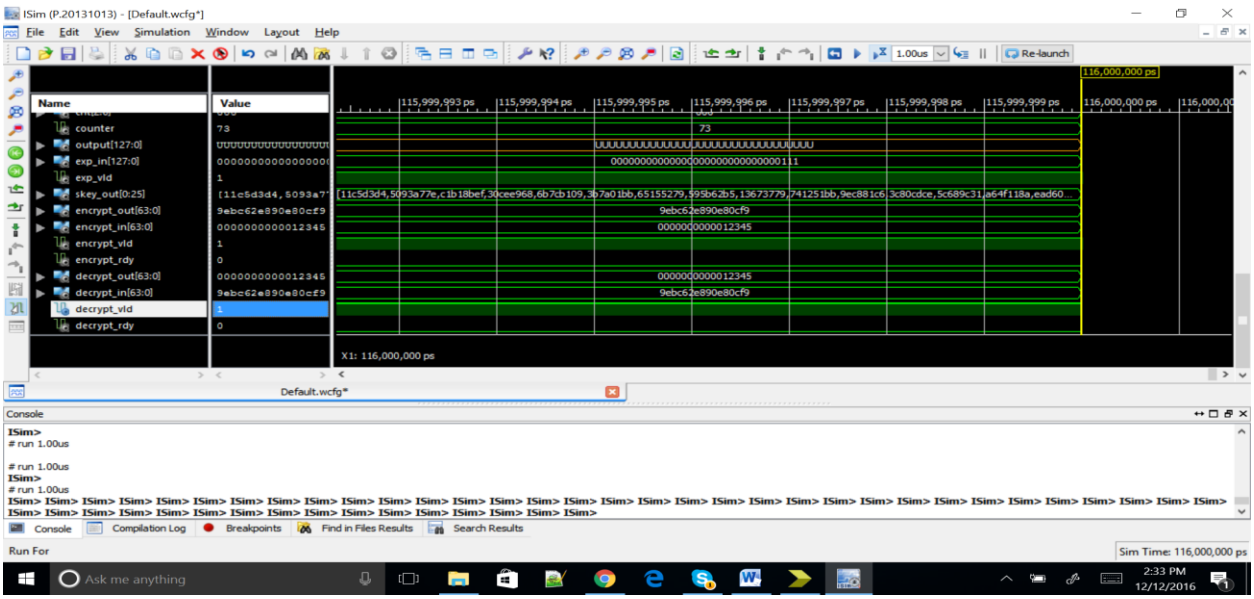
Input: 00000000000000000000000000000011

Encryption Input: 0000000000000111



Input: 00000000000000000000000000000111

Encryption Input: 0000000000012345



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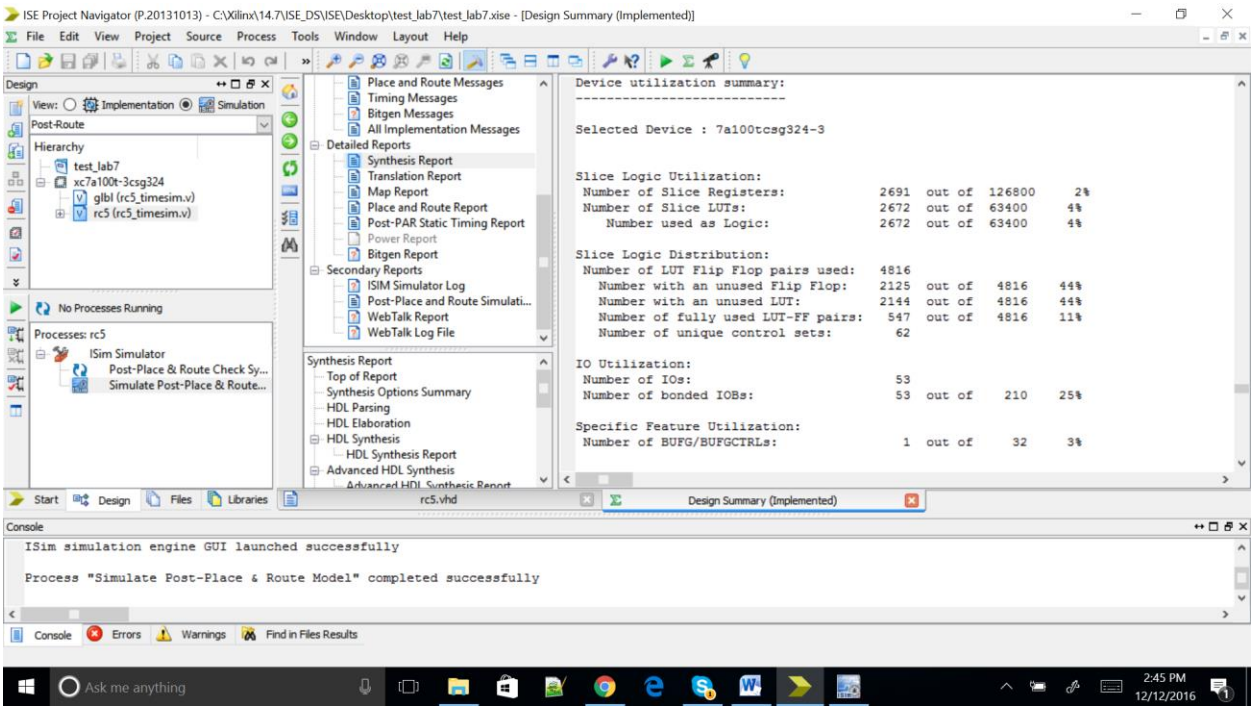
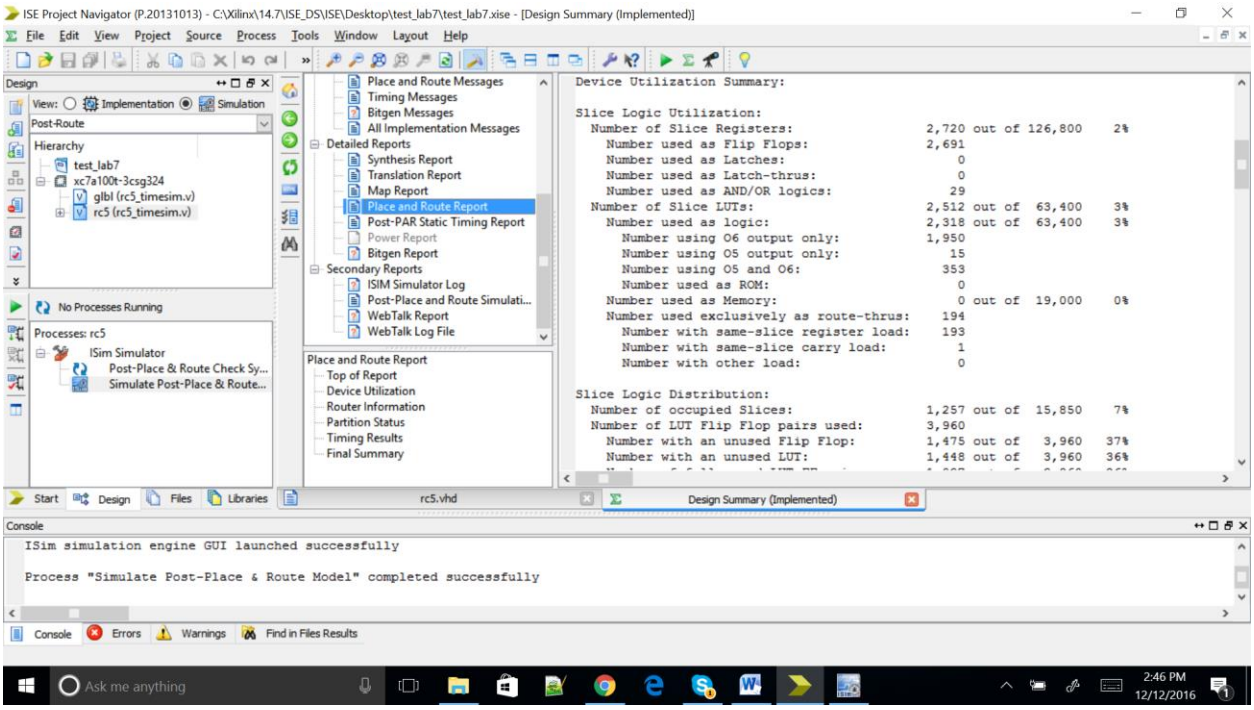
Resource Utilization:





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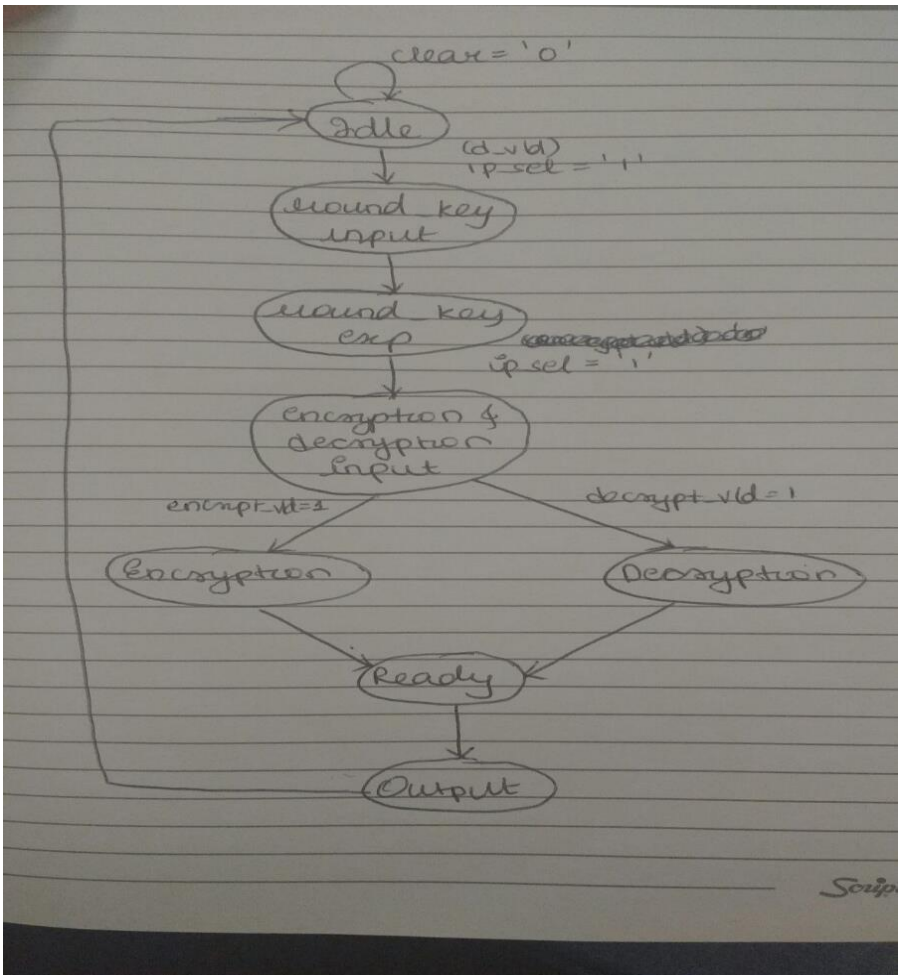
FSM:



Methodology:

Press the CPU reset button to clear

Switch 15 – 8 are used as input and Switch 7-4 are used to select the position of input.

For ex if switch 7-4 are 0000 then the input is 1st 8 bits i.e. from LSB to MSB.

Give input that you want and then press BTNC to validate.

Now turn switch 0 to high this will give your input to encryption and then press BTNC this will encrypt the input.

Now press BTNR to see the encrypted output.

Now turn switch 1 to high this will give the encrypted output as input to decryption module.

Once the input is given press BTNC for decryption.

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Now press BTNR to see the decrypted output. Which will be same as input given for encryption.

Critical Path Delay is 9.13 ns

The design can run at 109.53 Mhz

Propagation Delay of the design is 976.91 ns

Youtube Link :

https://youtu.be/CvRUkeAypIA