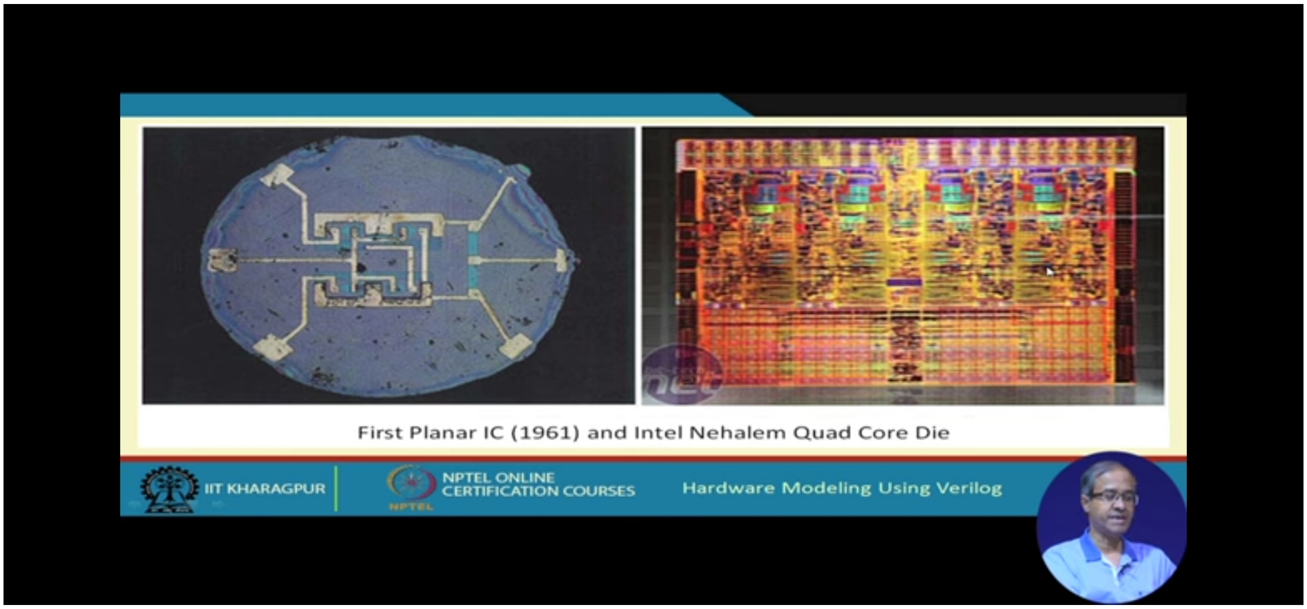
DAILY ASSESSMENT FORMAT

Date:	04-06-2020	Name:	Jagadeesha Hegde
Course:	Logic Design	USN:	4AL17EC036
Topic:	Hardware modelling using Verilog FPGA and ASIC Interview questions	Semester & Section:	6th A-sec
Github Repository:	Jagadeesha-036		

FORENOON SESSION DETAILS
Image of session



First Planar IC (1961) and Intel Nehalem Quad Core Die

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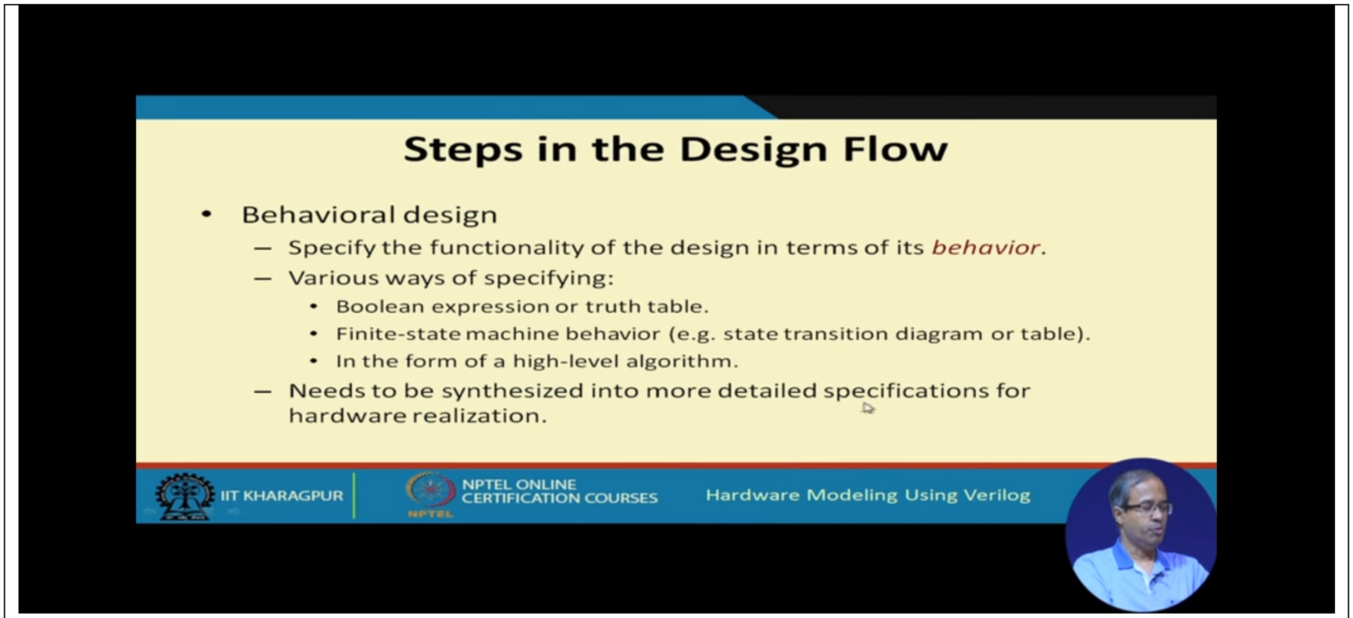
Hardware Modeling Using Verilog



Steps in the Design Flow

- Behavioral design
  - Specify the functionality of the design in terms of its *behavior*.
  - Various ways of specifying:
    - Boolean expression or truth table.
    - Finite-state machine behavior (e.g. state transition diagram or table).
    - In the form of a high-level algorithm.
  - Needs to be synthesized into more detailed specifications for hardware realization.

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Hardware Modeling Using Verilog

Report – Report can be typed or hand written for up to two pages.

VLSI DESIGN PROCESS

1. Design complexity increasing rapidly

2. CAD tools are essential

3. The present trends

• Standardize the design flow

• Emphasis on low power design and increased performance

MOORES LAW

• Exponential growth

• DESIGN complexity increase rapidly

- Automated tools are essential
- Must follow well defined design flow

VLSI DESIGN FLOW

- Standardize design procedure
- Emphasis many steps

1. Specifications
2. Synthesis
3. Simulation
4. Layout
5. Testability analysis

- Need to use computer aided design (CAD)Tool

TWO COMPLEXITY HDLS

- VERILOG
- Vhdl

Steps in design flow

- Design idea
- Behavioural design
- Data path design
- Logic design
- Physical design
- Manufacturing
- Chip /board

OTHER STPES IN DESIGN FLOW

- Simulation for verification
- Formal verification
- Testability analysis and test pattern generation

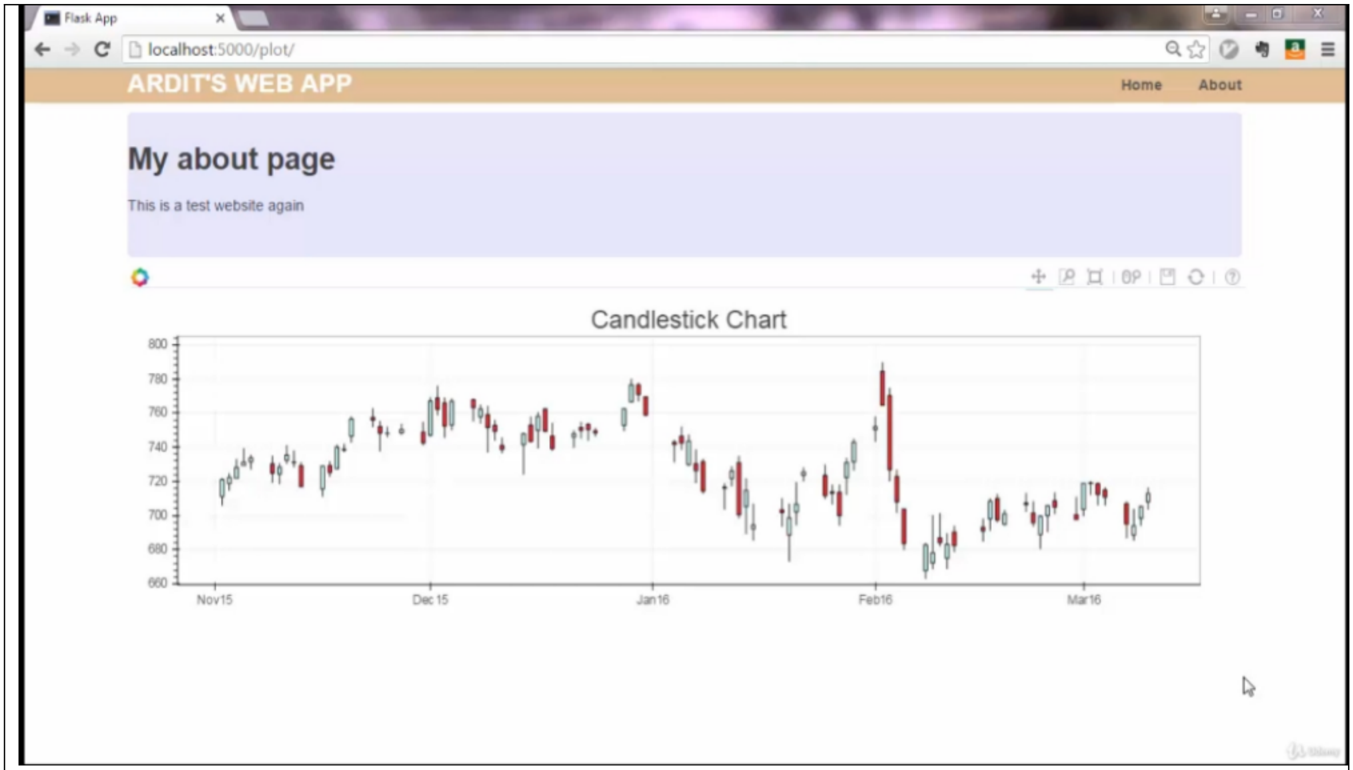
IMPLEMENT A SIMPLE T FLIPFLOP AND TEST THE MODULE USING A COMPILER

Code:

```
module tff ( input clk, input rstn, input t,
                    output reg q);
always @ (posedge clk) begin
if (!rstn)
      q <= 0;
else
      if (t)
            q <= ~q;
      else
            q <= q;
 end
endmodule
```

Date:	04-06-2020	Name:	Jagadeesha Hegde
Course:	The Python Mega Course	USN:	4AL17EC036
Topic:	Application 9: Build a Web-based financial Graph	Semester & Section:	6th A-sec

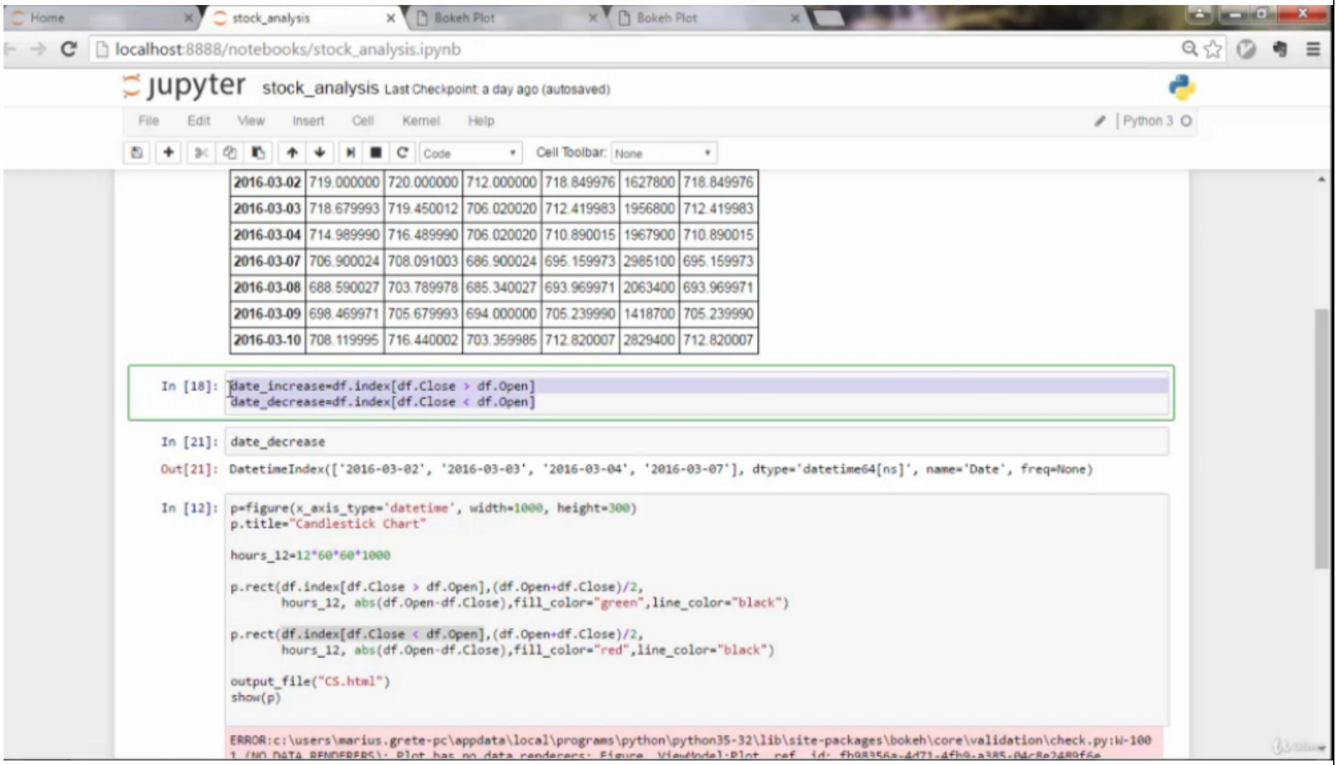
AFTERNOON SESSION DETAILS
Image of session



ARDIT'S WEB APP

My about page

This is a test website again



stock_analysis Last Checkpoint: a day ago (autosaved)

Code

Cell Toolbar: None

2016-03-02	719.000000	720.000000	712.000000	718.849976	1627800	718.849976
2016-03-03	718.679993	719.450012	706.020020	712.419983	1956800	712.419983
2016-03-04	714.989990	716.489990	706.020020	710.890015	1967900	710.890015
2016-03-07	706.900024	708.091003	686.900024	695.159973	2985100	695.159973
2016-03-08	688.590027	703.789978	685.340027	693.969971	2063400	693.969971
2016-03-09	698.469971	705.679993	694.000000	705.239990	1418700	705.239990
2016-03-10	708.119995	716.440002	703.359985	712.820007	2829400	712.820007

```
In [18]: date_increase=df.index[df.Close > df.Open]
         date_decrease=df.index[df.Close < df.Open]
```

```
In [21]: date_decrease

Out[21]: DatetimeIndex(['2016-03-02', '2016-03-03', '2016-03-04', '2016-03-07'], dtype='datetime64[ns]', name='Date', freq=None)
```

```
In [12]: p=figure(x_axis_type='datetime', width=1000, height=300)
         p.title="Candlestick Chart"

         hours_12=12*60*60*1000

         p.rect(df.index[df.Close > df.Open],(df.Open+df.Close)/2,
                hours_12, abs(df.Open-df.Close),fill_color="green",line_color="black")

         p.rect(df.index[df.Close < df.Open],(df.Open+df.Close)/2,
                hours_12, abs(df.Open-df.Close),fill_color="red",line_color="black")

         output_file("CS.html")
         show(p)
```

```
ERROR:c:\users\marius.grete-pc\appdata\local\programs\python\python35-32\lib\site-packages\bokeh\core\validation\check.py:W-100
1 (NO_DATA_RENDERERS): Plot has no data renderers: Figure, ViewModel:Plot, ref _id: fb98356a-4d71-4fb9-a385-04c8e2489f6e
```

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CREATION OF BASIC ENCRYPTION APP

- Practice over loop together
- Create where there are a communication on watusp or let’s say telegram or whatever app what’s happening in that those communication are encrypted
- Decided to create a encryptic engine to be able to criple let’s say conversation

```
def crypted(sentence):
translation =""
for element in sentence:
    if element in "Aa":
        translation=translation+"1"
        elif element in "Bb":
               translation = translation + "2"
               elif element in "Cc":
                     translation = translation + "3"
                     elif element in "Dd":
                                translation = translation + "4"
                                 elif element in "Ee":
                                        translation = translation + "5"
                                        elif element in "Ff":
                                          translation =translation + "6"
```

```
elif element in "Gg":
      translation = translation +"7"
      elif element in "Hh":
          translation = translation+"8"
          elif element in "II":
              translation = translation +"9"
               elif element in "JJ":
                    translation = translation +"!"
                     else :
                            translation = translation + element
                             restore translation '
```