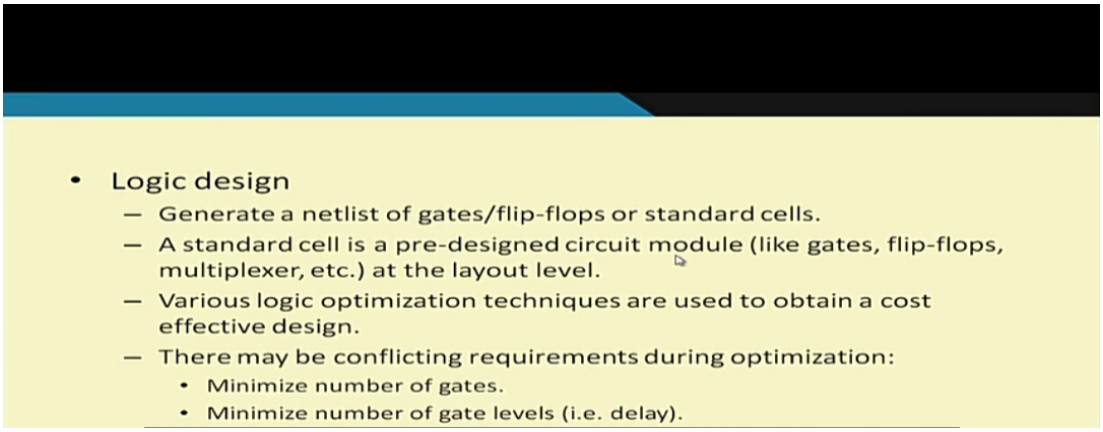
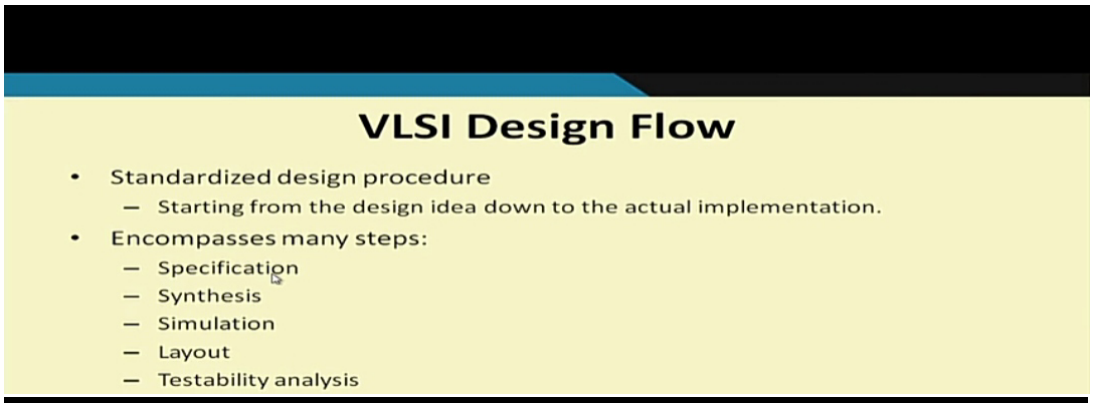
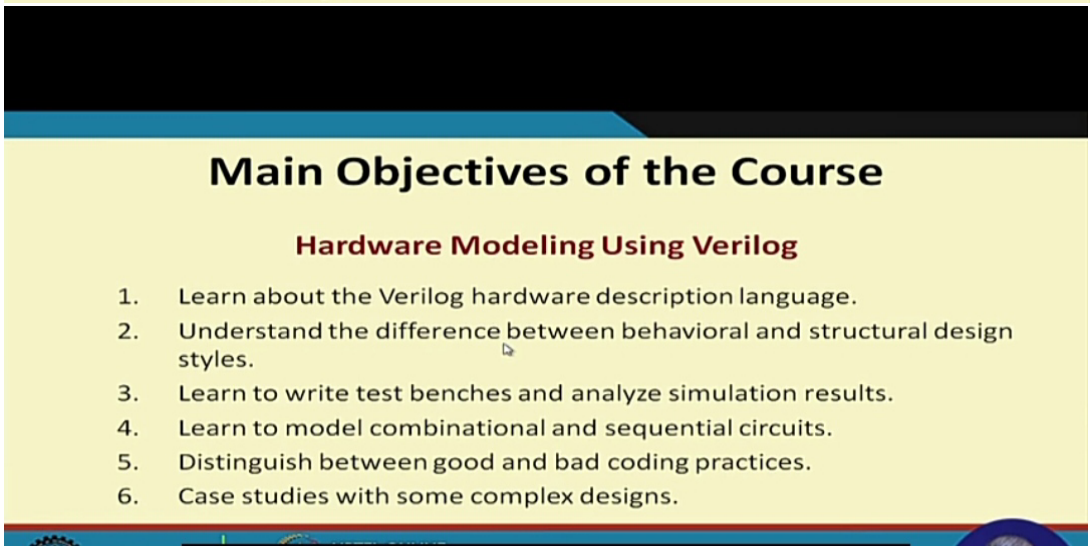
Date:	04-06-2020	Name:	Rajeshwari Gadagi
Course:	HDL	USN:	4AL17EC076
Topic:	Hardwase modelling using Verilog,interview questions	Semester and section:	6th sem and B sec







Hardware Modeling Using Verilog

- Design Complexity increases Rapidly
  - Increased size and complexity
  - Fabrication technology improving
  - CAD tools are essential
  - conflicting requirements like area, speed and energy consumption

★ Moore's law
- Exponential growth
- Design complexity increases rapidly.
- automated tools are essential
- Must follow well-defined design flows

★ VLSI Design Flow.
- Specification
- Synthesis
- Simulation
- Layout
- testability analysis and many more
- Need to use CAD tools

★ Two competing HDLs –
1. Verilog 2. VHDL

★
Design idea
↓
Behavioral design
↓
Data path design
↓
logic design
↓
Physical design
↓
Manufacturing

Interview Questions for FPGA & ASIC

★ Verilog code to swap contents of two registers.

with temp reg :-
```
always @ (posedge clock)
begin
temp = b;
b = a;
a = temp;
end
```

without temp reg :-
```
always @ (posedge clock)
begin
a <= b;
b <= a;
end
```

★. Open a file –
```
integer file;
file = $fopen("filename");
file = $fopenw("filename");
file = $fopena("filename");
```

Close a file –
```
integer file, r;
r = $fclose(file);
r = $fclosew(file);
```

★ Sensitivity list :- indicates that when a change occurs to any one of elements in the list change, begin ... end statement inside that always block will get executed

★ PLI (Programming language interface) of Verilog HDL is a mechanism to interface Verilog programs with programs written in C language

Date:	04-06-2020	Name:	Rajeshwari Gadagi
Course:	Python programming	USN:	4AL17EC076
Topic:	Build a web based financial graph	Semester and section:	6th sem and B sec

Build a web-based financial graph.

- candlestick chart is used for analysis in stock marketing data
- Downloading Datasets with Python -

```
from pandas_datareader import data
import datetime
```

- Stock Market Data Candlestick charts -

```
start = datetime.datetime(2016,3,1)
end = datetime.datetime(2016,3,10)
df = data.DataReader(name = "GOOG", data_source = "yahoo",
                     start = start, end = end)
df.
```

- Embedding the Bokeh Chart in a Webpage -

→

```
from flask import Flask, render_template
app = Flask(__name__)
@app.route('/')
def home():
    return render_template("home.html")
@app.route('/about/')
def about():
    return render_template("about.html")
if __name__ == "__main__"
app.run(debug = True)
```

- Code for script :-

```
from flask import Flask, render_template.
app = Flask(__name__)
@app.route('/plot/')
def plot():
    from pandas_datareader import data
```

```
import datetime
from bokeh.plotting import figure, show, output_file,
from bokeh.embed import components
from bokeh.resources import CDN
start = datetime.datetime(2015, 11, 1)
end = datetime.datetime(2016, 3, 10)
df = data.DataReader(name="GOOG", data_source='yahoo',
                     start=start, end=end)
```

Plotting:-

```
{% extends "layout.html" %}
{% block contents %}
<div class="about">
<h1> my about page </h1>
<p> this is a test website again </p>
</div>
{% endblock %}
```