

* Hardware modeling using Verilog

- Design complexity increase rapidly
- Increased size & complexity
- Fabrication technology improving.
- CAD tools are essential
- Conflicting requirements like area speed & energy consumption.

* Moore's law

- Exponential growth
- Design complexity increases rapidly
- automatic tools are essential
- Must follow well-defined design flow

* VLSI design flow

- specification
- synthesis
- simulation
- layout
- testability analysis & many more
- Need to use CAD tool.

Sensitivity test: Indicate that when a change occurs to any one of elements in the list change, begin... end statement inside that always block will get execute.

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

* 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

- 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('/plot1')  
def plot():  
    from pandas import Flask, render_template  
    import datetime  
    from bokeh.plotting import figure, show  
    import datetime  
    from bokeh.plotting import figure, show, output_file  
    from bokeh.resources 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:-  
    % 1, orient="row", layout="html" % 1, %
```