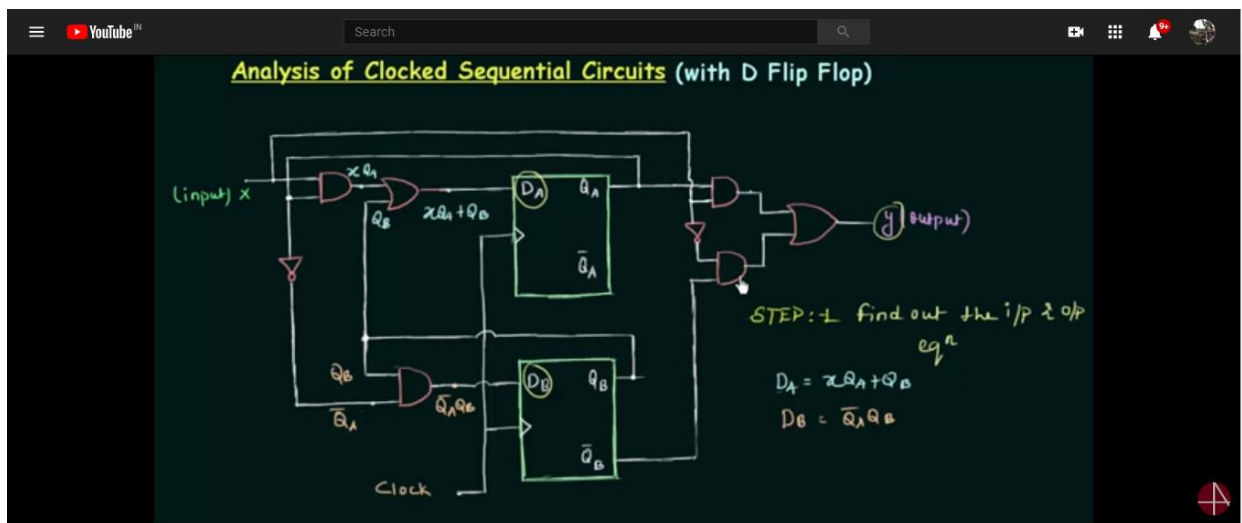


DAILY ASSESSMENT

Date:	29-May-2020	Name:	Swastik R Gowda
Course:	LOGIC DESIGN	USN:	4AL17EC091
Topic:	❖ Analysis of clocked sequential circuits ❖ Digital clock design	Semester & Section:	6 th Sem 'B' Sec
Github Repository:	swastik-gowda		

FORENOON SESSION DETAILS

Image of session



STEP: 3 state diagram

Q_A	Q_B	x	Q_A	Q_B	y
0	0	0	0	0	1
0	0	1	0	0	0
0	1	0	1	1	0
0	1	1	1	1	0
1	0	0	0	0	1
1	0	1	1	0	1
1	1	0	1	0	0
1	1	1	1	0	1

State transitions:

$$S_0 = \begin{matrix} Q_A & Q_B \\ 0 & 0 \end{matrix} \quad S_2 = 10$$

$$S_1 = 01 \quad S_3 = 11$$

The state diagram shows four states: 00, 01, 10, and 11. Transitions are indicated by arrows: 00 to 01 (labeled 0), 01 to 10 (labeled 1), 10 to 11 (labeled 0), and 11 to 00 (labeled 1).

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

Analysis of clocked sequential circuits:

- ❖ The behavior of a clocked sequential circuit is determined from its inputs, outputs and state of the flip-flops (i.e., the output of the flip-flops). The analysis of a clocked sequential circuit consists of obtaining a table of a diagram of the time sequences of inputs, outputs and states.
- ❖ The basic memory element in sequential logic is the flip-flop. The output of each flip-flop only changes when triggered by the clock pulse, so changes to the logic signals throughout the circuit all begin at the same time, at regular intervals, synchronized by the clock.

Digital clock design:

- ❖ Flip flop circuits are classified into four types based on its use, namely D-Flip Flop, T-Flip Flop, SR-Flip Flop and JK-Flip Flop.
- ❖ D Flip-Flop: The simplification of the SR flip flop is nothing but D flip-flop which is shown in the figure. The input of the D-flip flop directly goes to the input S and its complement goes to the i/p R. The D-input is sampled throughout the existence of a CLK pulse. If it is 1, then the FF is switched to the set state. If it is 0, then the FF switches to a clear state.
- ❖ Digital clocks are often associated with electronic drives, but the "digital" description refers only to the display, not to the drive mechanism. (Both analogue and digital clocks can be driven either mechanically or electronically, but "clockwork" mechanisms with digital displays are rare).

Date:	29-May-2020	Name:	Swastik R Gowda
Course:	PYTHON	USN:	4AL17EC091
Topic:	❖ Application 2: Create Web maps with Python and Folium	Semester & Section:	6 th Sem 'B' Sec

AFTERNOON SESSION DETAILS

Image of session

```

1 import folium
2 import pandas
3
4 data = pandas.read_csv("Volcanoes.txt")
5 lat = list(data["LAT"])
6 lon = list(data["LON"])
7
8 map = folium.Map(location=[38.58, -99.80], zoom_start=6, tiles="Mapbox Bright")
9
10 fg = folium.FeatureGroup(name="My Map")
11
12 for lt, ln in zip(lat, lon):
13     fg.add_child(folium.Marker(location=[lt, ln], popup=, icon=folium.Icon(color="green")))
14
15 map.add_child(fg)
16
17 map.save("Map1.html")
18

```

```

1 import pandas
2
3 data = pandas.read_csv("Volcanoes.txt")
4 lat = list(data["LAT"])
5 lon = list(data["LON"])
6 elev = list(data["ELEV"])
7
8
9 def color_producer(elevation):
10     if elevation < 1000:
11         return 'green'
12     elif 1000 <= elevation < 3000:
13         return 'orange'
14     else:
15         return 'red'
16
17 map = folium.Map(location=[38.58, -99.80], zoom_start=6, tiles="Mapbox Bright")
18
19 fg = folium.FeatureGroup(name="My Map")
20
21 for lt, ln, el in zip(lat, lon, elev):
22     fg.add_child(folium.CircleMarker(location=[lt, ln], radius = 6, popup=strie()+ " m",
23     fill_color=color_producer(el), color = 'grey', fill_opacity=0.7))
24
25 fg.add_child(folium.GeoJson(data=open('world.json', 'r', encoding='utf-8-sig'),
26 style_function=lambda x: ('fillColor':'green' if x['properties']['POP2005'] < 1000000
27 else 'orange' if 1000000 <= x['properties']['POP2005'] < 2000000 else 'red'))))
28
29 map.add_child(fg)
30
31 map.add_child(folium.LayerControl())
32
33 map.save("Map1.html")
34

```

```

1 def color_producer(elevation):
2     if elevation < 1000:
3         return 'green'
4     elif 1000 <= elevation < 3000:
5         return 'orange'
6     else:
7         return 'red'
8
9 map = folium.Map(location=[38.58, -99.80], zoom_start=6, tiles="Mapbox Bright")
10
11 fg = folium.FeatureGroup(name="Volcanoes")
12
13 for lt, ln, el in zip(lat, lon, elev):
14     fg.add_child(folium.CircleMarker(location=[lt, ln], radius = 6, popup=strie()+ " m",
15     fill_color=color_producer(el), color = 'grey', fill_opacity=0.7))
16
17 fg = folium.FeatureGroup(name="Population")
18
19 fg.add_child(folium.GeoJson(data=open('world.json', 'r', encoding='utf-8-sig'),
20 style_function=lambda x: ('fillColor':'green' if x['properties']['POP2005'] < 1000000
21 else 'orange' if 1000000 <= x['properties']['POP2005'] < 2000000 else 'red'))))
22
23 map.add_child(fgv)
24
25 map.add_child(fg)
26
27 map.add_child(folium.LayerControl())
28
29 map.save("Map1.html")
30

```

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

```
import folium
import pandas
```

```
data = pandas.read_csv("Volcanoes.txt")
lat = list(data["LAT"])
lon = list(data["LON"])
elev = list(data["ELEV"])
```

```
def color_producer(elevation):
    if elevation < 1000:
        return 'green'
    elif 1000 <= elevation < 3000:
        return 'orange'
    else:
        return 'red'
```

```
map = folium.Map(location=[38.58, -99.09], zoom_start=6, tiles="Mapbox Bright")
fgv = folium.FeatureGroup(name="Volcanoes")
```

```
for lt, ln, el in zip(lat, lon, elev):
    fgv.add_child(folium.CircleMarker(location=[lt, ln], radius = 6, popup=str(el)+" m",
    fill_color=color_producer(el), fill=True, color = 'grey', fill_opacity=0.7))
```

```
fgp = folium.FeatureGroup(name="Population")
```

```
fgp.add_child(folium.GeoJson(data=open('world.json', 'r', encoding='utf-8-sig').read(),
style_function=lambda x: {'fillColor':'green' if x['properties']['POP2005'] < 10000000
else 'orange' if 10000000 <= x['properties']['POP2005'] < 20000000 else 'red'}))
```

```
map.add_child(fgv)
map.add_child(fgp)
map.add_child(folium.LayerControl())
```

```
map.save("Map1.html")
```

