

— <https://doi.org/10.1016/j.jmb.2019.05.005>

L	P
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Clock	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
State	A	A	B	C	C	D	A	B	C	D	B	B	B	C	D	B
Output R	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0

## 1.2 Connection of RGB LEDs on Nexys A7

## 2.1 State diagram

```

graph TD
    STOP1((STOP1  
(RED,RED)  
1s)) --> WEST_GO((WEST_GO  
(RED,GREEN)  
4s))
    WEST_GO --> WEST_WAIT((WEST_WAIT  
(RED,YELLOW)  
2s))
    WEST_WAIT --> STOP2((STOP2  
(RED,RED)  
1s))
    STOP2 --> SOUTH_WAIT((SOUTH_WAIT  
(YELLOW,RED)  
2s))
    SOUTH_WAIT --> SOUTH_GO((SOUTH_GO  
(GREEN,RED)  
4s))
    SOUTH_GO --> STOP1
  
```

name of state  
(south, west) traffic light  
duration of state

STOP1
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515 Listing of VHDL code of sequential process p\_smart\_frame\_form