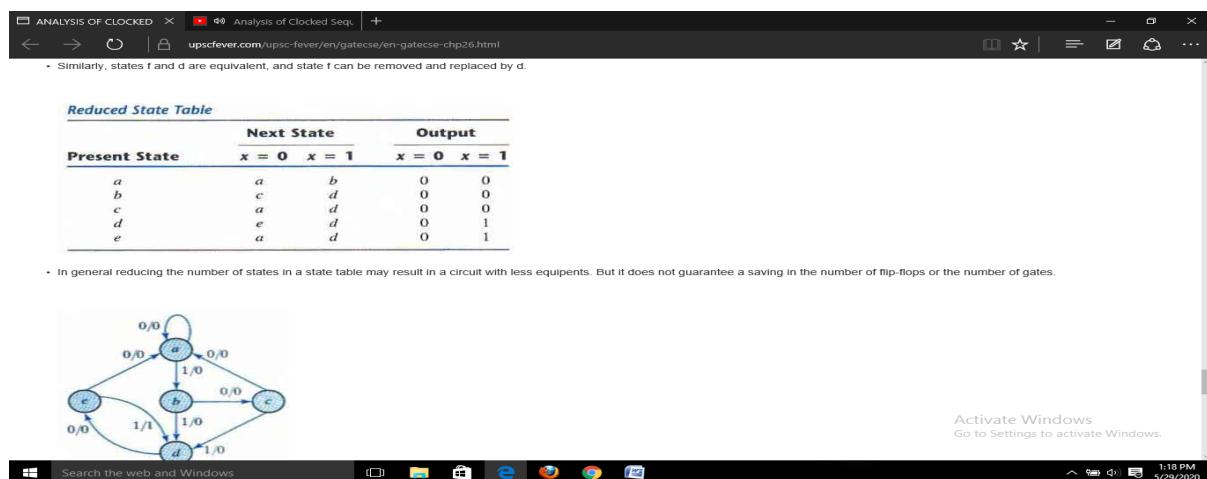


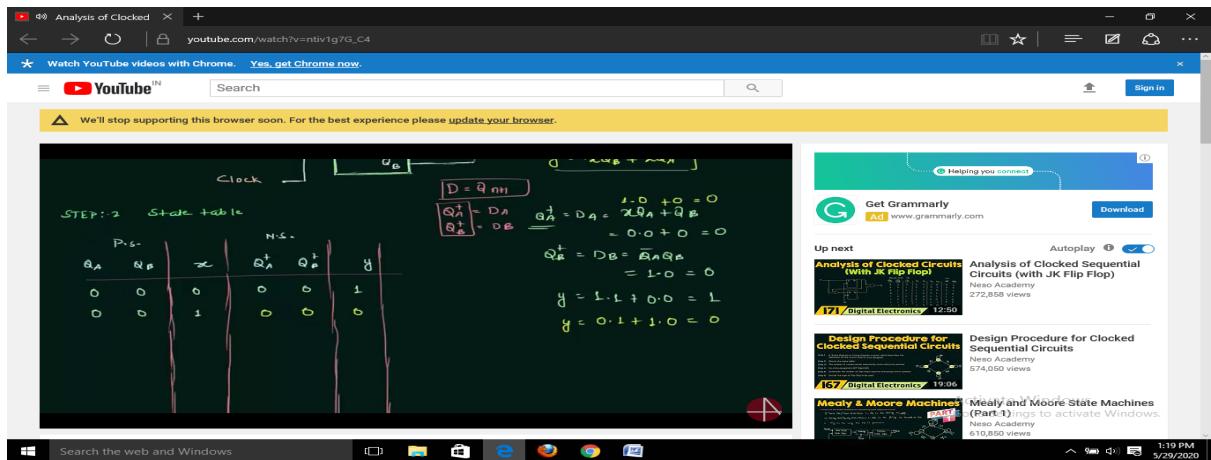
Date:	29-05-2020	Name:	Yamunashree N
Course:	Logic design	USN:	4AL17EC097
Topic:	Analysis of clocked sequential circuits, Digital clock design	Semester and section	6 <sup>th</sup> sem 'B' section
Github repository:	Yamunashree-course		



The screenshot shows a YouTube video player for a lecture titled "Analysis of Clocked Sequential Circuits (with D Flip Flop)". The video is from the channel "171 Digital Electronics". The video content shows a logic circuit diagram with two D flip-flops, labeled A and B, and their outputs  $Q_A$  and  $Q_B$ . The circuit includes AND and OR gates. A note on the screen says "STEP: 1 find out the i/p & o/p eq'n". The video player interface shows the URL "youtube.com/watch?v=ntiv1g7G\_C4", the title "Analysis of Clocked Sequential Circuits (with D Flip Flop)", and the channel "171 Digital Electronics". Below the video, there are recommended videos and ads.



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W Digital clock - Wikipedia X

en.wikipedia.org/wiki/Digital\_clock

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# Digital clock

From Wikipedia, the free encyclopedia

This article is about the appliance. For timing reference for digital audio, see [Word clock](#).

 This article **needs additional citations for verification**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.  
Find sources: "Digital clock" – news · newspapers · books · scholar · JSTOR (January 2010) (Learn how and when to remove this template message)

A **digital clock** is a type of clock that displays the time **digitally** (i.e. in numerals or other symbols), as opposed to an analogue clock, where the time is indicated by the positions of rotating hands.

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).

**Contents [hide]**

- 1 History
- 2 Construction
- 3 Displays
  - 3.1 Setting
- 4 Uses of digital clocks
- 5 References

  
Basic digital alarm clock without a radio. The mark in the top-left of the display indicates that the time is 4:00pm, not 4:00am.  
Activate Windows  
Go to Settings to activate Windows.

Search the web and Windows 1:28 PM 5/29/2020



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29/05/2020

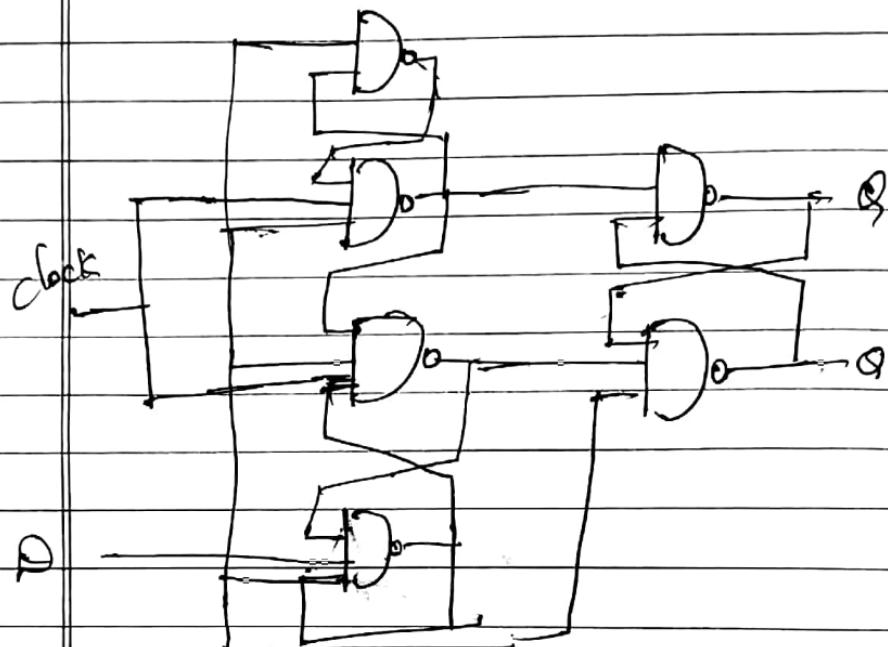
## Logic Design

Day - 2

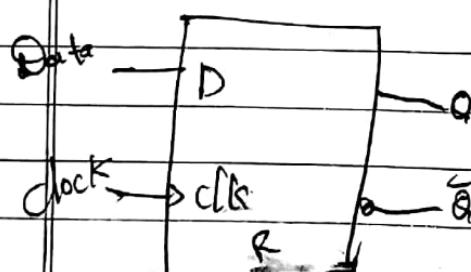
Analysis of clocked Sequential Circuits and Digital clock design

Analysis of clocked Sequential circuits

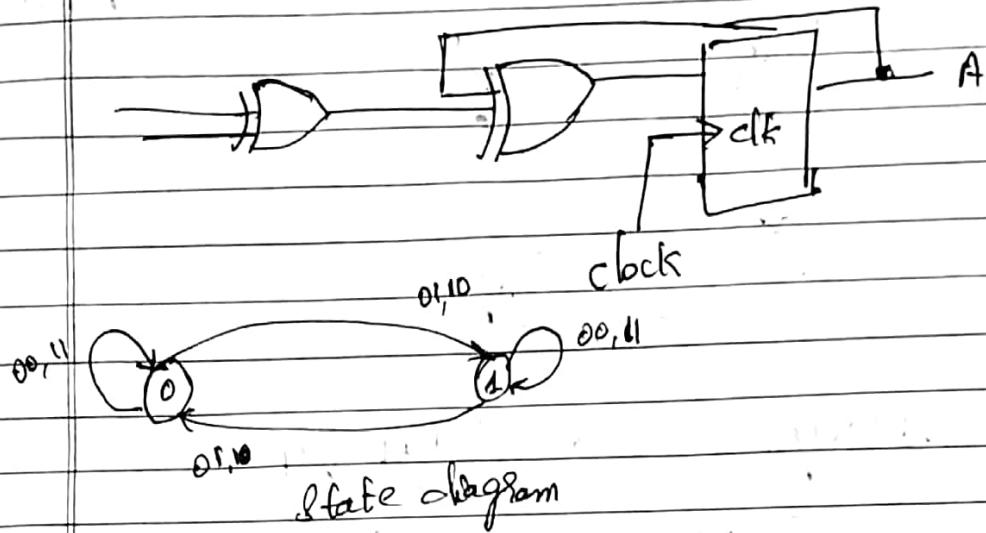
\* Positive edge triggered  $\Theta$  flip-flop



Reset circuit diagram



## Analysis of D flip flop



Present State	Inputs	Next State
A	X Y	A
0	0 0	0
0	0 1	1
0	1 0	1
0	1 1	1
1	0 0	0
1	0 1	1
1	1 0	0
1	1 1	1

Analysis with JK flip-flop

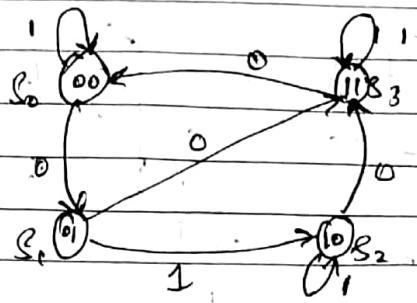
$$J_A = B; K_A = Bx'$$

$$J_B = X'; K_B = A'x + Ax' = A \oplus x$$

$$= A(t+1) = JA' + K'A$$

$$= B(t+1) = JB' + K'B$$

$$= B(t+1) = X'B + (A \oplus X)'B = B'X' + ABX + A'BX'$$



### Analysis with T flip-flops

$$= Q(t+1) = T \oplus Q = TQ + TQ'$$

$$= T_A = BX$$

$$= T_B = X'$$

$$= Y = AB$$

$$= A(t+1) = (BX)'A + (BX)A' = AB' + AX + A'BX$$

$$= B(t+1) = X \oplus B$$

### Digital clock design

A digital clock is a type of clock that displays the time digitally, as opposed to an analogue clock, where the time is indicated by the positions of rotating hands.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Date:	29-05-2020	Name:	Yamunashree N
Course:	Python programming	USN:	4AL17EC097
Topic:	Object oriented programming	Semester and section:	6 <sup>th</sup> sem and B sec

frontend.py — D:\Dropbox\ppclasses\Demo — Atom

## 189. Object Oriented Programming Explained

```
File Edit Select Find Paste Help
Demo
  backend.py frontend.py
  books.db
  frontend.py
  frontend.spec

51 14=Label(window,text="ISBN")
52 14.grid(row=1,column=2)
53
54 title_text=StringVar()
55 e1=Entry(window,textvariable=title_text)
56 e1.grid(row=0,column=1)
57
58 author_text=StringVar()
59 e2=Entry(window,textvariable=author_text)
60 e2.grid(row=0,column=3)
61
62 year_text=StringVar()
63 e3=Entry(window,textvariable=year_text)
64 e3.grid(row=1,column=1)
65
66 isbn_text=StringVar()
67 e4=Entry(window,textvariable=isbn_text)
68 e4.grid(row=1,column=3)
69
70 list1=Listbox(window, height=6,width=35)
71 list1.grid(row=2,column=0, rowspan=6, columnspan=2)
72
73 sb1=Scrollbar(window)
74 sb1.grid(row=2,column=2, rowspan=6)
75
76 list1.configure(yscrollcommand=sb1.set)
77 sb1.configure(command=list1.yview)
78
```

Activate Windows  
Go to Settings to activate Windows.

The screenshot shows the PyCharm IDE interface with the following details:

- Project Structure:** The project is named "Demo". It contains two main packages: "account" and "bookstore". The "account" package has files "acc.py", "balance.txt", and \_\_init\_\_.py. The "bookstore" package has files "backend.py", "books.db", "frontend.py", and frontend.spec.
- Code Editor:** The code for "acc.py" is displayed:

```
1  class Account:
2
3      def __init__(self, filepath):
4          self.filepath=filepath
5          with open(filepath, 'r') as file:
6              self.balance=int(file.read())
7
8      def withdraw(self, amount):
9          self.balance=self.balance - amount
10
11     def deposit(self, amount):
12         self.balance=self.balance + amount
13
14     def commit(self):
15         with open()
16
17 account=Account("account//balance.txt")
18 print(account.balance)
19 account.withdraw(20)
```
- Terminal:** The terminal window shows the execution of the script:

```
PS D:\Dropbox\pp\classes\Demo> python account\acc.py
1000
PS D:\Dropbox\pp\classes\Demo> python account\acc.py
1000
900
PS D:\Dropbox\pp\classes\Demo> python account\acc.py
1000
900
PS D:\Dropbox\pp\classes\Demo>
```
- Bottom Status Bar:** Shows the current file is "acc.py", the time is 16:39 / 21:06, and the line number is 4:31 (1, 8).
- Right Sidebar:** An advertisement for Windows activation.

```
29         self.title_text=StringVar()
30         self.e1=Entry(window,textvariable=self.title_text)
31         self.e1.grid(row=0,column=1)
32
33         self.author_text=StringVar()
34         self.e2=Entry(window,textvariable=self.author_text)
35         self.e2.grid(row=0,column=3)
36
37         self.year_text=StringVar()
38         self.e3=Entry(window,textvariable=self.year_text)
39         self.e3.grid(row=1,column=1)
40
41         self.isbn_text=StringVar()
42         self.e4=Entry(window,textvariable=self.isbn_text)
43         self.e4.grid(row=1,column=3)
44
45         self.list1=Listbox(window, height=6,width=35)
46         self.list1.grid(row=2,column=0, rowspan=6, columnspan=2)
47
48         sb1=Scrollbar(window)
49         sb1.grid(row=2,column=2, rowspan=6)
50
51         self.list1.configure(yscrollcommand=sb1.set)
52         sb1.configure(command=self.list1.yview)
53
54         self.list1.bind('<<ListboxSelect>>',self.get_selected_row)
55
56
57         b1=Button(window,text="View all", width=12,command=self.view_all)
58         b1.grid(row=2,column=3)
59
60         b2=Button(window,text="Search entry", width=12,command=self.search_entry)
61         b2.grid(row=3,column=3)
62
63         b3=Button(window,text="Add entry", width=12,command=self.add_entry)
64         b3.grid(row=4,column=3)
65
66         b4=Button(window,text="Update selected", width=12,command=self.update_entry)
67         b4.grid(row=5,column=3)
68
69         b5=Button(window,text="Delete selected", width=12,command=self.delete_entry)
70         b5.grid(row=6,column=3)
```

Activate Windows  
Go to Settings to activate Windows.



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29/05/2020

Day -10

## Object Oriented Programming

- \* Object oriented programming Explained
- \* Turning this application into OOP Style part 1
- \* Turning this Application into OOP Style part 2
- \* Creating a Bank Account object
- \* Inheritance
- \* OOP Glossary
- \* GUI in oop Design (practice)
- \* Solution

