

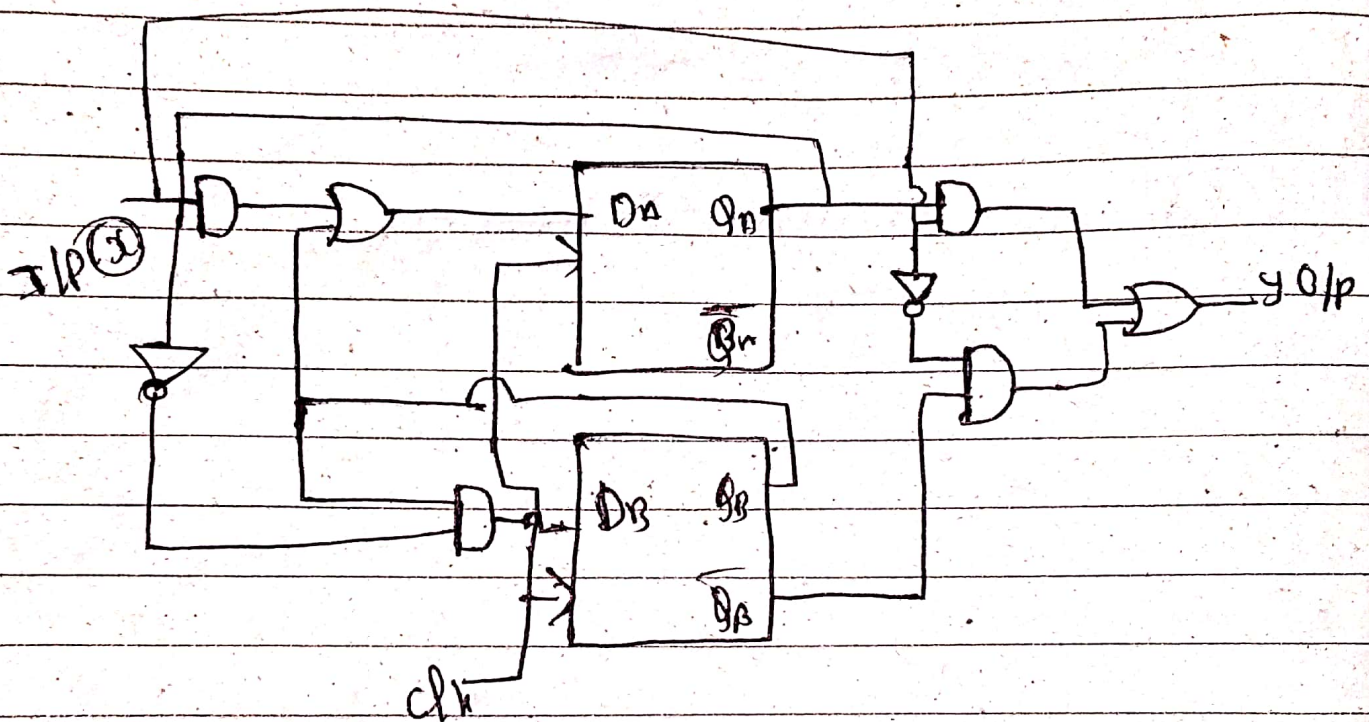
Logic design

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Analysis of clocked sequential ckt (with DFF)



Step 1 = Find out the i/p o/p eqn.

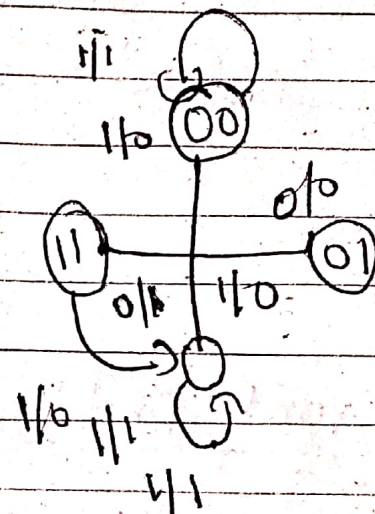
$$D_A = \bar{X}Q_A + Q_B$$

$$D_B = \bar{Q}_A Q_B$$

$$Y = \bar{X}Q_B + XQ_B$$

Step 2 state table.

P.S					
Q_A	Q_B	X	\bar{Q}_A	\bar{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	0	0	1



Digital clk design.

- digital clk is a type of clk that displays the time digitally.
- digital clks are often associated with electronic device the digital description refers only the display not the drive mechanism.
- Because digital clk can be very small & inspires device.

Python programming:-

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* Object oriented programming.

- OOPS the way to organise the code
- Backend

```
import sqlite3
class Database:
    def init_(self):
        conn = sqlite3.connect('books.db')
        cur = conn.cursor()
        cur.execute("CREATE TABLE")
        conn.commit()
        conn.close()
```

• front end:-

```
from tkinter import
from backend import Database
database = Database()
```

```
def get_selected_row(event):
    global selected_tuple
    index = list1.curselection()[0]
    selected_tuple = list1.get(index)
    e1.delete(0, END)
    e1.insert(END, selected_tuple[1])
```

* Inheritance:- Is the process of create a new class from a base class.

Ex:-

class Account:


```
def __init__(self, filepath):  
    self.filepath = filepath  
    with open(filepath, 'r') as file:  
        self.balance = int(file.read())
```

```
def withdraw(self, amount):  
    self.balance = self.balance - amount
```

```
def deposit(self, amount):  
    self.balance = self.balance + amount
```

```
def commit(self):  
    with open(self.filepath, 'w') as file:  
        file.write(str(self.balance))
```

```
class checking(Account) -> desired class  
def __init__(self, filepath, fee):  
    Account.__init__(self, filepath)  
    self.fee = fee
```

```
def transfer(self, amount):  
    self.balance = self.balance - amount - self.fee
```

```
checking = checking("account", 100, 1)  
checking.transfer(100)  
print(checking.balance)  
checking.commit()
```