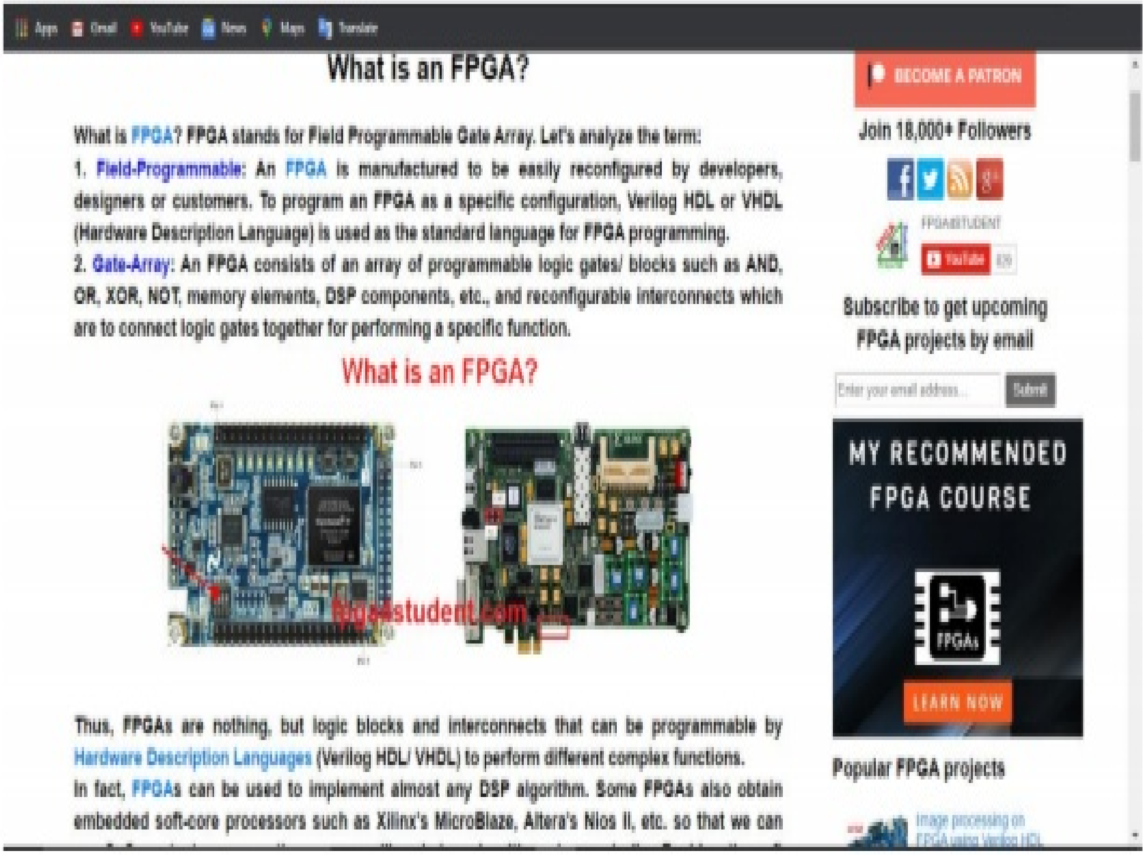
DAILY ASSESSMENT FORMAT

Date:	05-06-2020	Name:	M V Ramya
Course:	logic design	USN:	4AL17EC045
Topic:	FPGA	Semester & Section:	6th sem, A sec
Github Repository:	M V Ramya-045		

FORENOON SESSION DETAILS



What is an FPGA?

What is FPGA? FPGA stands for Field Programmable Gate Array. Let's analyze the term:

1. Field-Programmable: An FPGA is manufactured to be easily reconfigured by developers, designers or customers. To program an FPGA as a specific configuration, Verilog HDL or VHDL (Hardware Description Language) is used as the standard language for FPGA programming.

2. Gate-Array: An FPGA consists of an array of programmable logic gates/ blocks such as AND, OR, XOR, NOT, memory elements, DSP components, etc., and reconfigurable interconnects which are to connect logic gates together for performing a specific function.

Thus, FPGAs are nothing, but logic blocks and interconnects that can be programmable by Hardware Description Languages (Verilog HDL/ VHDL) to perform different complex functions.

In fact, FPGAs can be used to implement almost any DSP algorithm. Some FPGAs also obtain embedded soft-core processors such as Xilinx's MicroBlaze, Altera's Nios II, etc. so that we can

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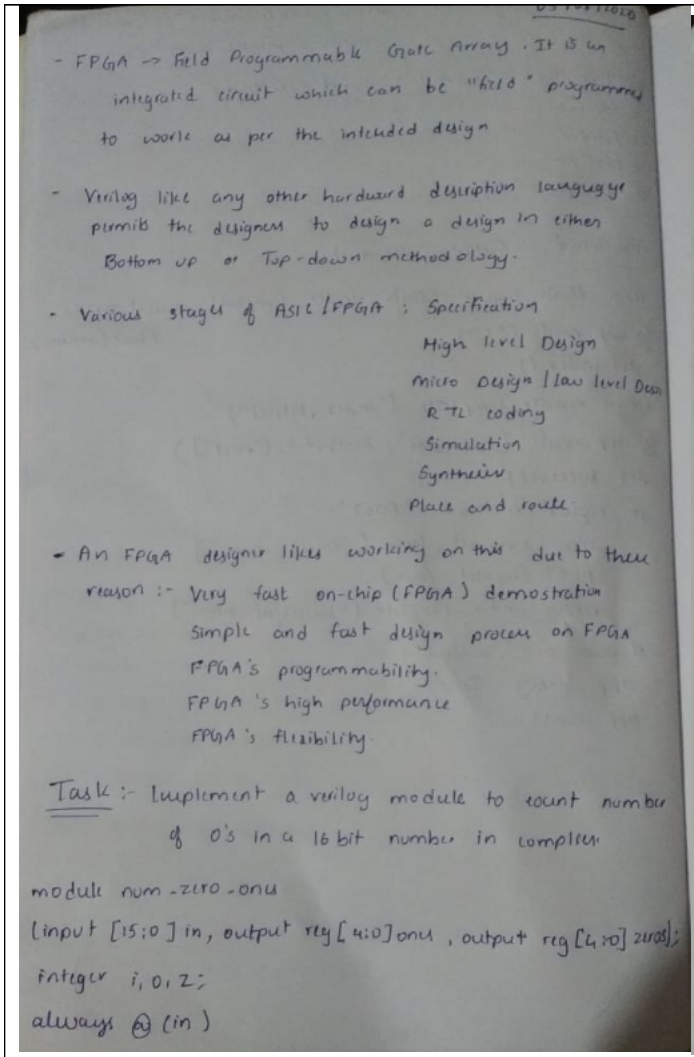
Image processing on FPGA using Verilog HDL



- FPGA -> Field Programmable Gate Array. It is an integrated circuit which can be "field" programmed to work as per the intended design

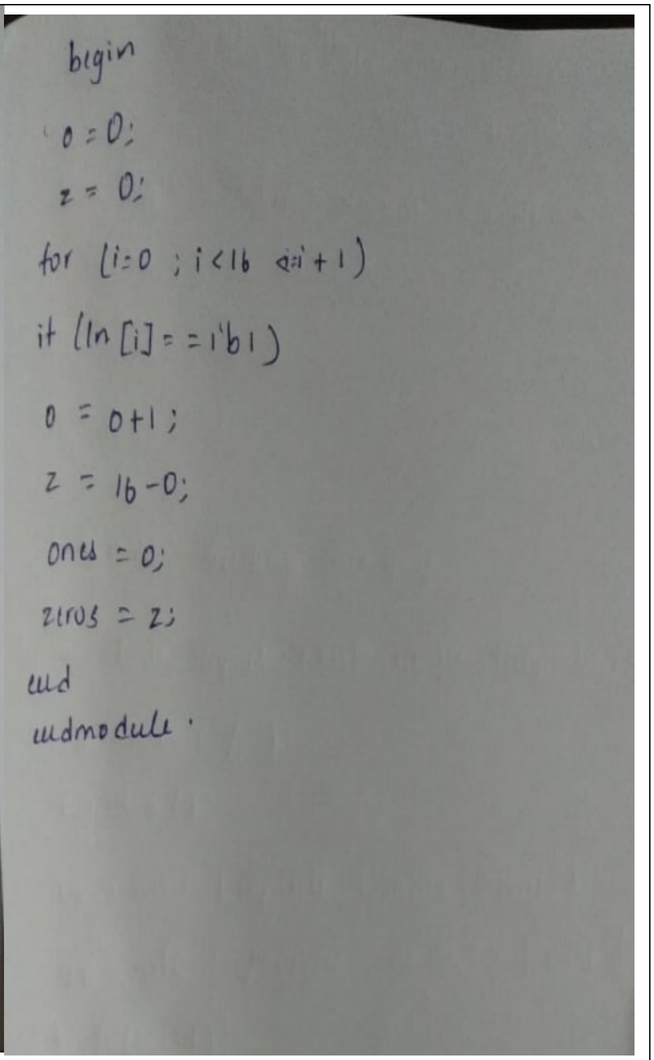
- Verilog like any other hardward description language permits the designers to design a design in either Bottom up or Top-down methodology.

- Various stages of ASIC/FPGA : Specification
  High level Design
  Micro Design/Low level Design
  RTL coding
  Simulation
  Synthesis
  Place and route

- An FPGA designer likes working on this due to these reason :- Very fast on-chip (FPGA) demostration
  Simple and fast design process on FPGA
  FPGA's programmability.
  FPGA's high performance
  FPGA's flexibility.

Task :- Implement a verilog module to count number of 0's in a 16 bit number in complier.

```
module num-zero-ones
(input [15:0] in, output reg [4:0] ones , output reg [4:0] zeros);
integer i, o, z;
always @ (in )
```



```
begin
o = 0;
z = 0;
for (i=0 ; i<16 ; i=i+1)
if (In[i] = = 1'b1)
o = o+1;
z = 16-o;
ones = o;
zeros = z;
end
endmodule.
```

Date:05june2020

Name: MV Ramya

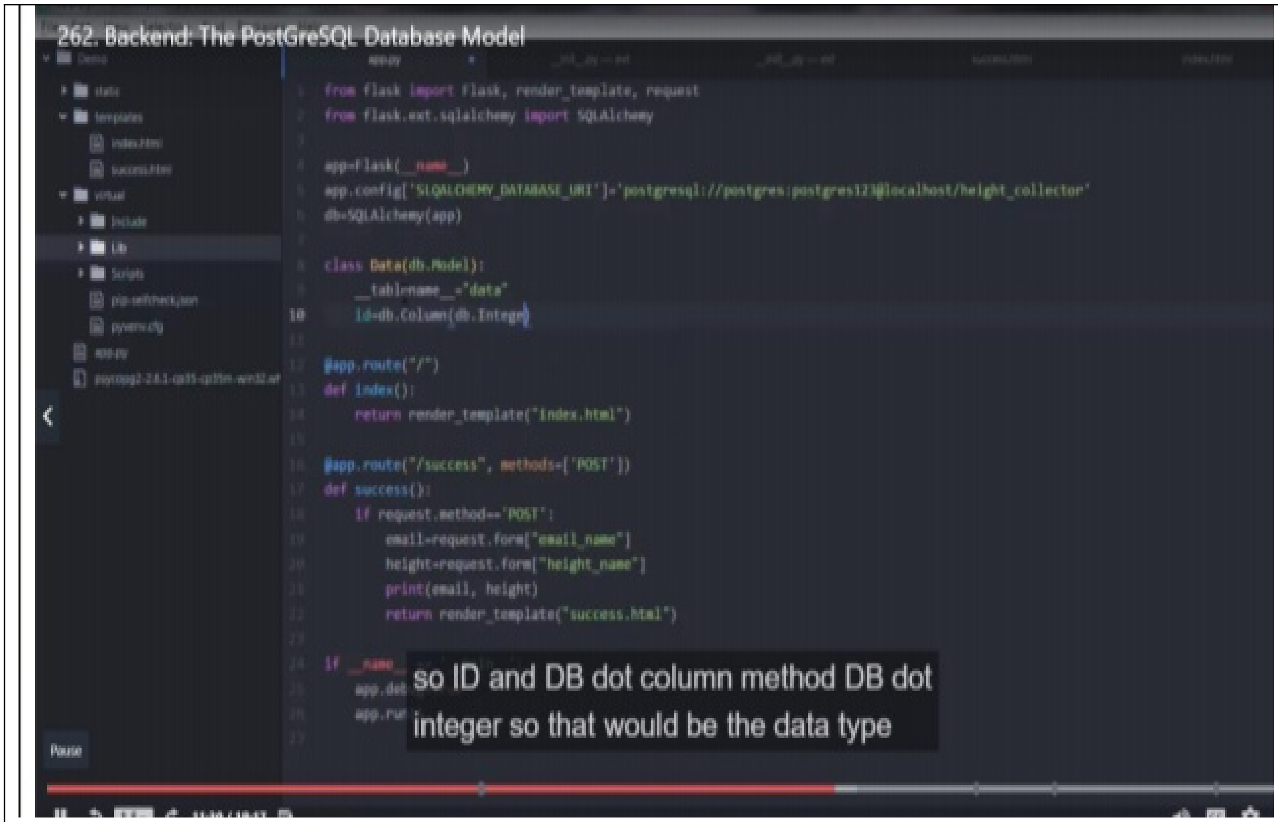
Course: python

USN:4AL17EC045

Topic:web app with PostGreSQL and Flask

Semester & Section: 6th sem Asec

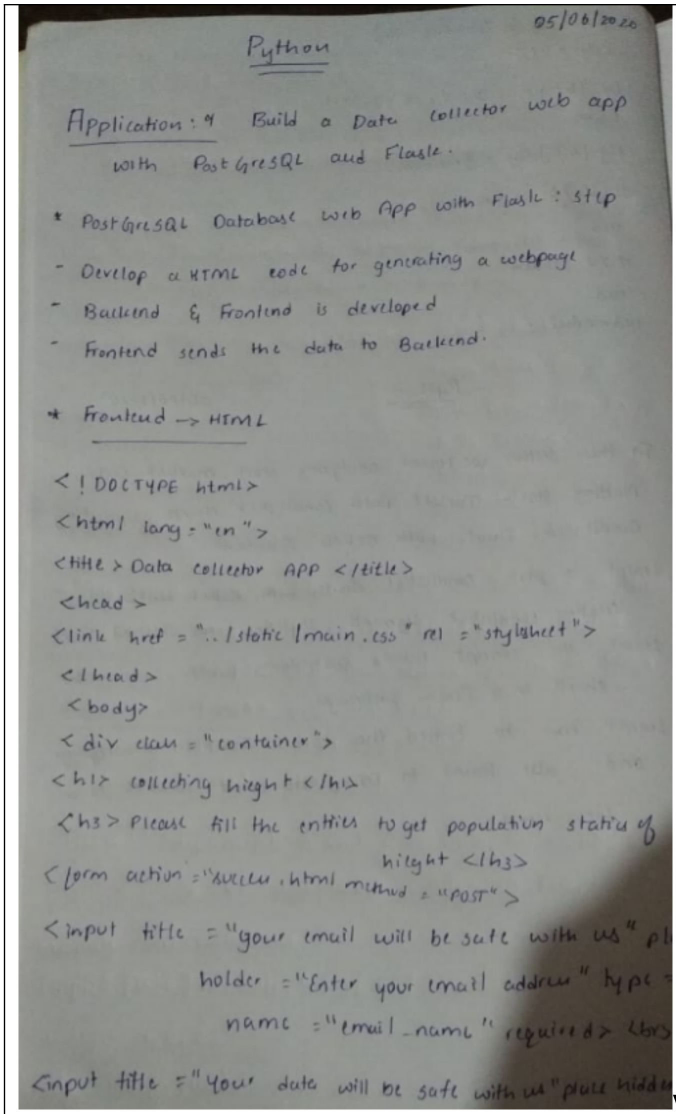
AFTERNOON SESSION DETAILS
Image of session



262. Backend: The PostGreSQL Database Model

```
from flask import Flask, render_template, request
from flask.ext.sqlalchemy import SQLAlchemy

app=Flask(__name__)
app.config['SLQALCHEMY_DATABASE_URI']='postgresql://postgres:postgres123@localhost/height_collector'
db=SQLAlchemy(app)

class Data(db.Model):
    __tabl=name__="data"
    id=db.Column(db.Intege)

@app.route("/")
def index():
    return render_template("index.html")

@app.route("/success", methods=['POST'])
def success():
    if request.method=='POST':
        email=request.form["email_name"]
        height=request.form["height_name"]
        print(email, height)
        return render_template("success.html")

if __name_
    app.de
    app.ru
```

so ID and DB dot column method DB dot integer so that would be the data type



05/06/2020

Python

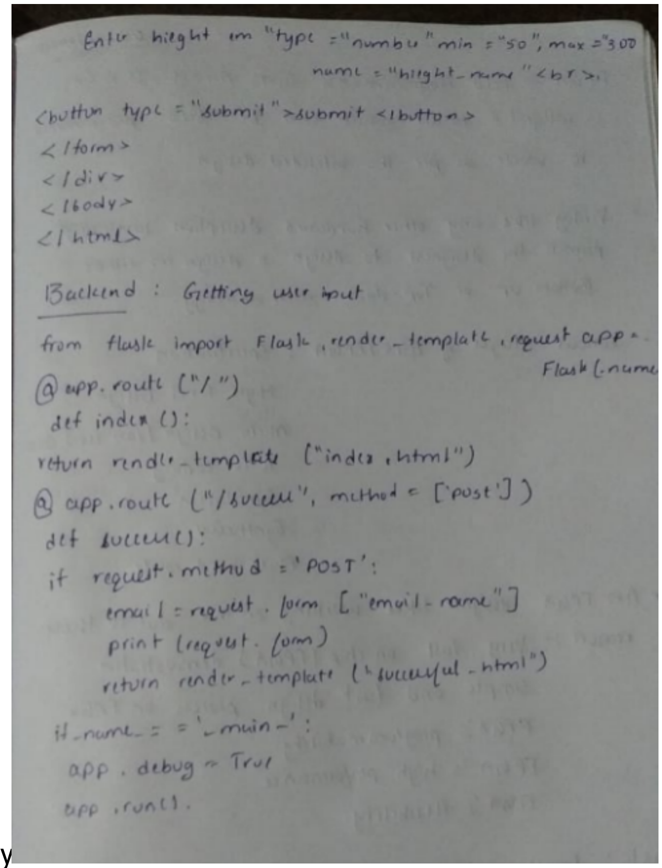
Application : 4 Build a Data collector web app with PostGreSQL and Flask.

- * PostGreSQL Database web App with Flask : step
- Develop a HTML code for generating a webpage
- Backend & Frontend is developed
- Frontend sends the data to Backend.

* Frontend -> HTML

```
<!DOCTYPE html>
<html lang="en">
<title> Data collector APP </title>
<head >
<link href = "../static/main.css" rel ="stylsheet">
<lhead>
<body>
<div class = "container">
<h1> collecting hieght </h1>
<h3> Please fill the entties to get population static of
                                   hieght </h3>
<form action ="succes.html method = "POST">
<input title = "your email will be safe with us" pl
               holder ="Enter your email address" type =
                  name ="email_name" required> <br>
<input title ="Your data will be safe with us" place hidde
```

y



```
     Enter hieght cm "type ="number" min ="50", max ="300
                                  name ="hieght_name" <br>.
<button type ="submit">submit </button>
</form>
</div>
</body>
</html>
```

Backend : Getting user input

```
from flask import Flask, render_template, request app =
                                               Flask (_name
@app.route ("/")
 def index ():
return render_template ("index.html")
@ app.route ("/success", method = ['post'])
def success():
 if request.method ='POST':
     email = request. form ["email_name"]
     print (request. form)
     return render_template ("successful_html")
 if_name_ = = '_main_':
  app . debug = True
  app .run().
```