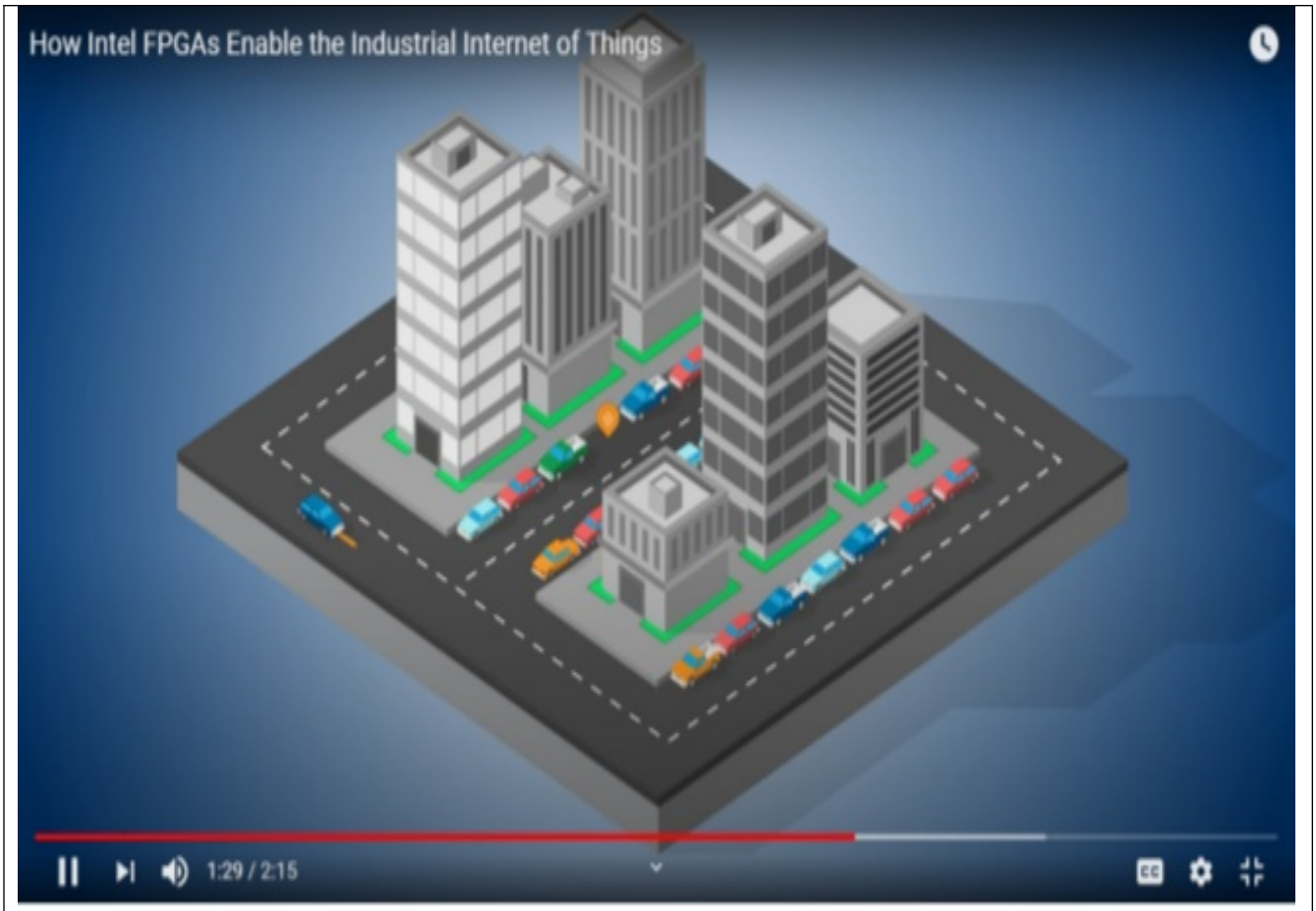
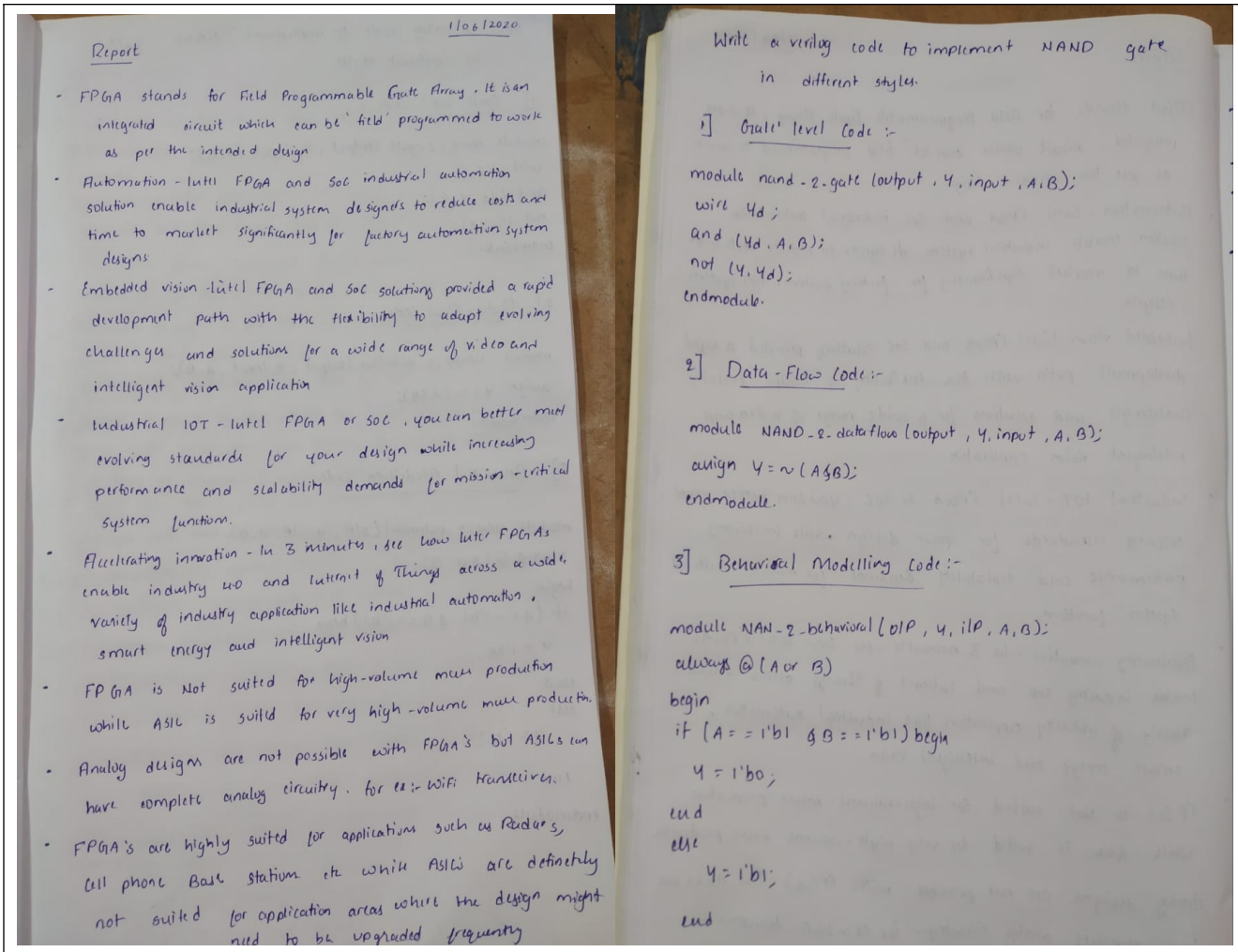
DAILY ASSESSMENT FORMAT

Date:	01-06-2020	Name:	M V Ramya
Course:	logic design	USN:	4AL17EC045
Topic:	industry application of FPGA	Semester & Section:	6th sem, A sec
Github Repository:	M V Ramya-045		

FORENOON SESSION DETAILS





1/06/2020

Report

- FPGA stands for Field Programmable Gate Array. It is an integrated circuit which can be 'field' programmed to work as per the intended design
- Automotive - Intel FPGA and SoC industrial automation solution enable industrial system designers to reduce costs and time to market significantly for factory automation system designs
- Embedded vision - Intel FPGA and SoC solutions provided a rapid development path with the flexibility to adapt evolving challenges and solutions for a wide range of video and intelligent vision application
- Industrial IOT - Intel FPGA or SoC, you can better meet evolving standards for your design while increasing performance and scalability demands for mission-critical system functions.
- Accelerating innovation - In 3 minutes, see how Intel FPGAs enable industry 4.0 and Internet of Things across a wide variety of industry application like industrial automation, smart energy and intelligent vision
- FPGA is Not suited for high-volume mass production while ASIC is suited for very high-volume mass production.
- Analog designs are not possible with FPGA's but ASICs can have complete analog circuitry. for ex:- WiFi transceiver.
- FPGA's are highly suited for applications such as Radars, Cell phone Base stations etc while ASICs are definetely not suited for application areas where the design might need to be upgraded frequently

Write a verilog code to implement NAND gate in different styles.

1] Gate level Code :-

```
module nand_2_gate (output, Y, input, A, B);
wire Yd;
and (Yd, A, B);
not (Y, Yd);
endmodule.
```

2] Data-Flow Code :-

```
module NAND_2_dataflow (output, Y, input, A, B);
assign Y = ~(A&B);
endmodule.
```

3] Behavioral Modelling Code :-

```
module NAN_2_behavioral (OIP, Y, iIP, A, B);
always @(A or B)
begin
if (A==1'b1 & B==1'b1) begin
  Y = 1'b0;
end
else
  Y = 1'b1;
end
```

Date:01june2020

Name: MV Ramya

Course: python

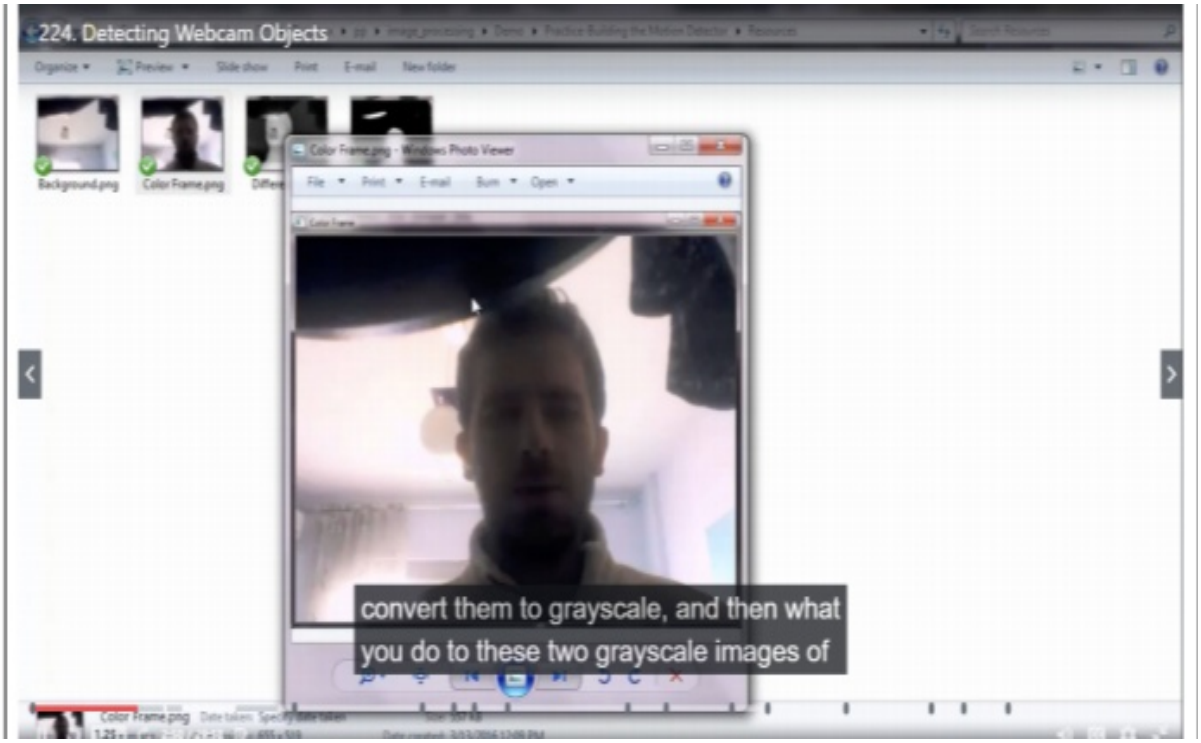
USN:4AL17EC045

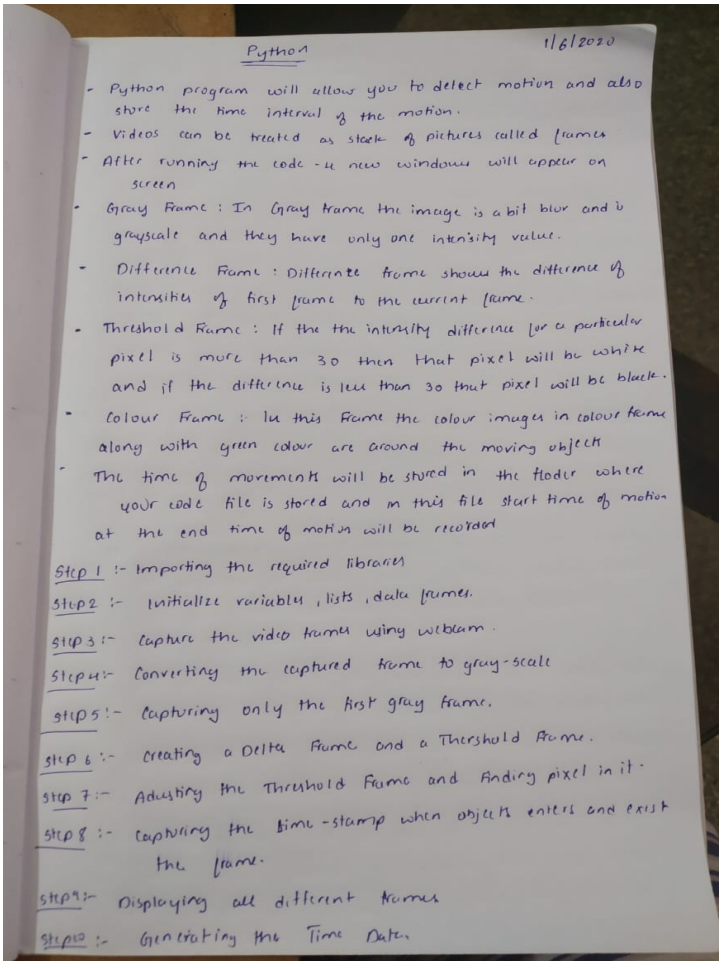
Topic: build a webcam motion detector

Semester & Section: 6th sem Asec

AFTERNOON SESSION DETAILS

Image of sessio





Python 1/6/2020

- Python program will allow you to detect motion and also store the time interval of the motion.
- Videos can be treated as stack of pictures called frames
- After running the code - 4 new windows will appear on screen
- Gray Frame : In Gray frame the image is a bit blur and is grayscale and they have only one intensity value.
- Difference Frame : Difference frame shows the difference of intensities of first frame to the current frame.
- Threshold Frame : If the the intensity difference for a particular pixel is more than 30 then that pixel will be white and if the difference is less than 30 that pixel will be black.
- Colour Frame : In this Frame the colour images in colour frame along with green colour are around the moving objects
- The time of movements will be stored in the floder where your code file is stored and in this file start time of motion at the end time of motion will be recorded

Step 1 :- Importing the required libraries
Step 2 :- Initialize variables, lists, data frames.
Step 3 :- Capture the video frames using webcam.
Step 4 :- Converting the captured frame to gray-scale
Step 5 :- Capturing only the first gray frame.
Step 6 :- Creating a Delta Frame and a Threshold Frame.
Step 7 :- Adjusting the Threshold Frame and finding pixel in it.
Step 8 :- Capturing the time-stamp when objects enters and exist the frame.
Step 9 :- Displaying all different frames
Step 10 :- Generating the Time Dates