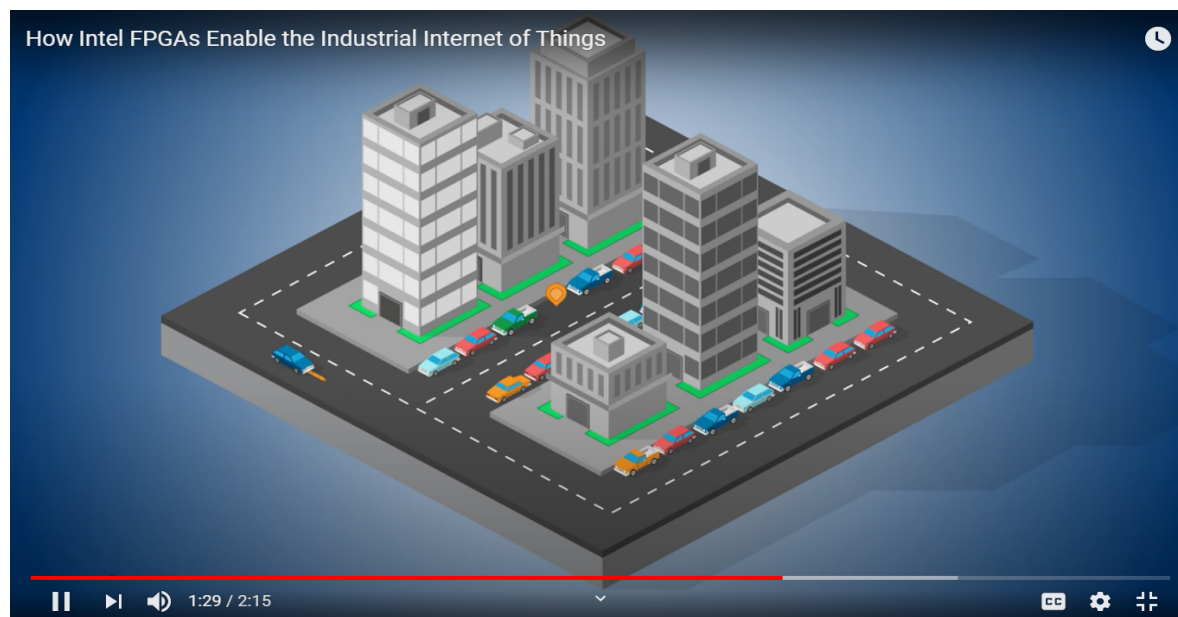


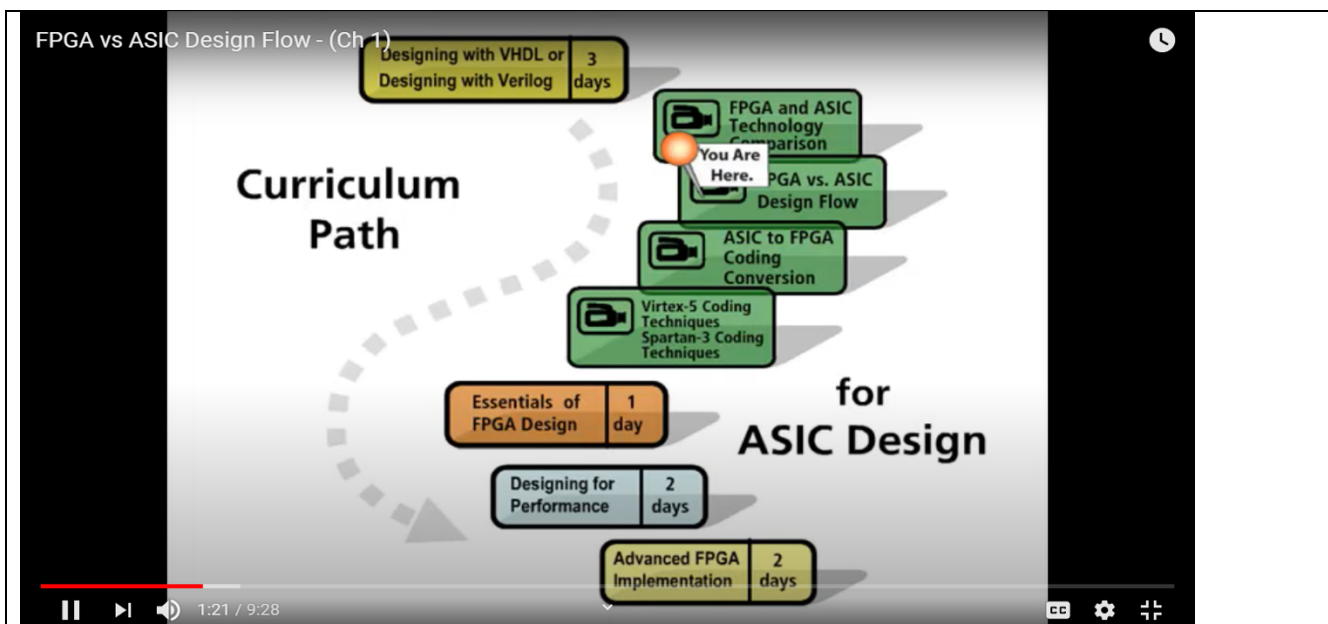
DAILY ASSESSMENT FORMAT

Date:	01-06-2020	Name:	K B KUSHI
Course:	Logic Design	USN:	4AL17EC107
Topic:	1.Industry applications of FPGA 2.FPGA business fundamentals 3.FPGA vs ASIC design flow 4.FPGA basics- A look under the hood	Semester & Section:	6 th & B
GitHub Repository:	https://www.github.com/alvas-education-foundation/KUSHI-COURSES		

FORENOON SESSION DETAILS

Image of session





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.
- **Automation-Intel FPGA and SoC industrial automation solutions** enable industrial system designers to reduce costs and time to market significantly for factory automation system designs.
- **Embedded Vision-Intel FPGA and SoC solutions** provide a rapid development path with the flexibility to adapt to evolving challenges and solutions for a wide range of video and intelligent vision applications.
- **Smart energy-With a single Intel FPGA or SoC,** you can better meet evolving standards for your design while increasing performance and scalability demands for mission-critical system functions like the control loop, grid communications, network redundancy, and security.
- **Industrial IOT-Intel FPGA technology** will be fundamental to delivering the value demanded of industrial systems within this software-defined automation environment.
- **Accelerating innovation-** In three minutes, see how Intel FPGAs enable Industry 4.0 and Internet of Things (IoT) across a wide variety of industrial applications like industrial automation, smart energy, and intelligent vision.

- ASIC stands for Application Specific Integrated Circuit. As the name implies, ASICs are application specific. They are designed for one sole purpose and they function the same their whole operating life. For example, the CPU inside your phone is an ASIC.
- FPGA is Not suited for very high-volume mass production while ASIC is Suited for very high-volume mass production.
- FPGA is Less energy efficient, requires more power for same function which ASIC can achieve at lower power but ASIC is Much more power efficient than FPGAs and Power consumption of ASICs can be very minutely controlled and optimized.
- Analog designs are not possible with FPGAs but ASICs can have complete analog circuitry, for example WiFi transceiver.
- FPGAs are highly suited for applications such as Radars, Cell Phone Base Stations etc while ASICs are definitely not suited for application areas where the design might need to be upgraded frequently.

Write a verilog code to implement NAND gate in all different styles:

1. Gate Level Code:

```
module NAND_2_gate_level(output Y, input A, B);
    wire Yd;
    and(Yd, A, B);
    not(Y, Yd);
endmodule
```

2. Data Flow Code:

```
module NAND_2_data_flow (output Y, input A, B);
    assign Y = ~(A & B);
endmodule
```

3. Behavioral Modelling code:

```
module NAND_2_behavioral (output reg Y, input A, B);
```

always @ (A or B) begin

if (A == 1'b1 & B == 1'b1) begin

Y = 1'b0;

end

else

Y = 1'b1;

end

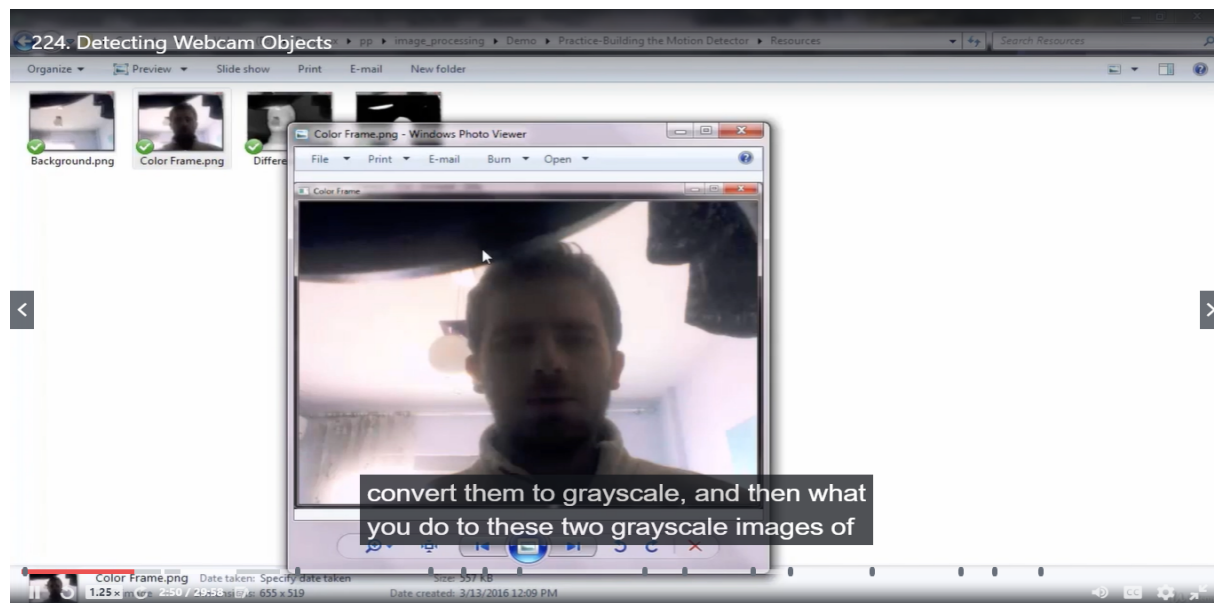
endmodule

•

Date:	01-06-2020	Name:	K B KUSHI
Course:	Udemy-python	USN:	4AL17EC107
Topic:	1.Build a webcam motion detector	Semester &Section:	6 th & B
GitHub repository	https://www.github.com/alvas-education-foundation/KUSHI-COURSES		

AFTERNOON SESSION DETAILS

Image of session



- **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 exits the frame**
- **Step 9: Displaying all the different frames**
- **Step 10: Generating the Time Data**

- **RPA(Robotic Process Automation) Certificate:**
- **The above course was useful and interesting as it involved concepts of automation and robotics. Got to learn about UiPath tool for academic purpose. Also learnt to build basic automated bot to search movies in various websites.**



K B KUSHI

is here by awarded the certificate of achievement for
the successful completion of

Step into Robotic Process Automation

during GUVI's RPA **SKILL-A-THON** 2020


S.P. Balamurugan

Co-founder, CEO

Valid certificate ID 07396wur1HC5505881

Verified certificate issue on June 1 2020

Verify certificate at www.guvi.in/certificate?id=07396wur1HC5505881

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