**DAILY ASSESSMENT FORMAT**

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| **Date:** | **01-06-2020** | **Name:** | **Bhavith** |
| **Course:** | **Digital Design using HDL** | **USN:** | **4AL17EC009** |
| **Topic:** | **Applications of FPGA and ASIC’s** | **Semester & Section:** | **6th,A** |
| **Github Repository:** | **Bhavith-Online-Courses** |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session**  **PSX_20200602_082613** |
| **Report – Report can be typed or hand written for up to two pages.**  **FPGA**  * **Field Programmable Gate Arrays (FPGAs) are semiconductor devices that are based around a matrix of configurable logic blocks (CLBs) connected via programmable interconnects.** * **FPGAs can be reprogrammed to desired application or functionality requirements after manufacturing.** * **This feature distinguishes FPGAs from Application Specific Integrated Circuits (ASICs), which are custom manufactured for specific design tasks.** * **Although one-time programmable (OTP) FPGAs are available, the dominant types are SRAM based which can be reprogrammed as the design evolves.**   **Difference between an ASIC and an FPGA?**   * **ASIC and FPGAs have different value propositions, and they must be carefully evaluated before choosing any one over the other.** * **Information abounds that compares the two technologies.** * **While FPGAs used to be selected for lower speed/complexity/volume designs in the past, today’s FPGAs easily push the 500 MHz performance barrier.** * **With unprecedented logic density increases and a host of other features, such as embedded processors, DSP blocks, clocking, and high-speed serial at ever lower price points, FPGAs are a compelling proposition for almost any type of design.**  **FPGA Applications**  * **Due to their programmable nature, FPGAs are an ideal fit for many different markets. As the industry leader, Xilinx provides comprehensive solutions consisting of FPGA devices, advanced software, and configurable, ready-to-use IP cores for markets and applications such as:** * **[Aerospace & Defense](https://www.xilinx.com/applications/aerospace-and-defense.html) - Radiation-tolerant FPGAs along with intellectual property for image processing, waveform generation, and partial reconfiguration for SDRs.** * **[ASIC Prototyping](https://www.xilinx.com/applications/emulation-prototyping.html) - ASIC prototyping with FPGAs enables fast and accurate SoC system modeling and verification of embedded software** * **[Audio](https://www.xilinx.com/applications/audio.html) - Xilinx FPGAs and targeted design platforms enable higher degrees of flexibility, faster time-to-market, and lower overall non-recurring engineering costs (NRE) for a wide range of audio, communications, and multimedia applications.** * **[Automotive](https://www.xilinx.com/applications/automotive.html) - Automotive silicon and IP solutions for gateway and driver assistance systems, comfort, convenience, and in-vehicle infotainment. - [Learn how Xilinx FPGA's enable Automotive Systems](https://www.xilinx.com/training/automotive-fpga-training.htm)** * **[Broadcast & Pro AV](https://www.xilinx.com/applications/broadcast.html) - Adapt to changing requirements faster and lengthen product life cycles with Broadcast Targeted Design Platforms and solutions for high-end professional broadcast systems.** * **[Consumer Electronics](https://www.xilinx.com/applications/consumer-electronics.html) - Cost-effective solutions enabling next generation, full-featured consumer applications, such as converged handsets, digital flat panel displays, information appliances, home networking, and residential set top boxes.** * **[Data Center](https://www.xilinx.com/applications/data-center.html) - Designed for high-bandwidth, low-latency servers, networking, and storage applications to bring higher value into cloud deployments.** * **[High Performance Computing and Data Storage](https://www.xilinx.com/applications/high-performance-computing.html) - Solutions for Network Attached Storage (NAS), Storage Area Network (SAN), servers, and storage appliances.** * **[Medical](https://www.xilinx.com/applications/medical.html) - For diagnostic, monitoring, and therapy applications, the Virtex FPGA and Spartan FPGA families can be used to meet a range of processing, display, and I/O interface requirements.** |

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| **Date:** | **01-06-2020** | **Name:** | **Bhavith** | |
| **Course:** | **Python** | **USN:** | **4AL17EC009** | |
| **Topic:** | **Web Based Finacial Graph,App to collect data** | **Semester & Section:** | **6th,A** | |
| **AFTERNOON SESSION DETAILS** | | | |
| **Image of session**  **PSX_20200602_082552** | | | |
| **Report – Report can be typed or hand written for up to two pages.**   * **There are several Python packages available that interface with SQL databases.** * **Over the past few weeks I used the psycopg2 module to interact with PostgreSQL database management systems.** * **You can use Python libraries on the data obtained from SQL queries.** * **The Pandas library, for instance, has native methods which allow us to display and manipulate the results of a query directly from a SQL database.** * **In this article I will detail the process of setting up psycopg2 and building a query function with these tools.** * **There are a few ways to connect to a PostgreSQL database, three methods are connecting directly through the PostgresApp/terminal/command line, connecting in one Python script or file and connecting by importing the necessary parameters from an initialization or configuration file.** * **The third option is best for when you wish to hide your login credentials with a .gitignore file.** | | | |