Blog TRAINING (TR-104)

Full Stack python and ml

Week 1

During the first week, we started with the basics of **HTML/CSS**, exploring the rules, syntax, and structure. Key topics included tags like image and anchor, as well as understanding how to use class and id for styling. In **Core Python**, we covered the language's syntax, lists with operations, index ranges (positive and negative), and set manipulations with examples. Practice sessions reinforced these concepts.

Week 2

HTML/CSS topics such as form validation, creating forms with fieldsets and legends, and working with frames, framesets, and iframes for embedding content like songs and videos. Meanwhile, in **Core Python**, we explored dictionaries (including loops and nested dictionaries), tuples, functions like get(), math operations, range(), and control flow with continue and break. Daily practice solidified the learning.

Week 3

we dove into HTML/CSS fundamentals, exploring pseudoelements, ordered and unordered lists, and the nuances of letter and word spacing. Visibility properties rounded out our styling toolkit. In Core Python, we covered loops, their types, and delved into OOP concepts like polymorphism, inheritance, encapsulation, and data abstraction, capped with hands-on practice.we enhanced our HTML/CSS knowledge by working with classes and IDs. We styled links using the four states—Visited, Hover, Active, and Link—adding dynamic flair to web pages. A productive start to web and programming essentials!

Week 4

we started with displaying and aligning images effectively in Python, ensuring proper aesthetics in GUI applications. Next, we explored designing and coloring tables, including setting border colors for better visual appeal. Moving forward, we learned about Python's access specifiers—public, private, and protected—to manage data encapsulation.

Week 5

The highlight of the week was working with Tkinter, where we created GUI components such as labels, checkboxes, frames, menus, scrollbars, and more. We also practiced using spinboxes, panned windows, canvases, and arcs to build interactive interfaces. Finally, practical sessions reinforced these concepts, making it a perfect blend of theory and hands-on experience.

Week 6

This week, we explored key HTML/CSS concepts, starting with the **span tag**, a versatile inline container for styling specific parts of text. We added flair using the **text-shadow** property to create stunning visual effects. Margins—**left, right, top, and bottom**—helped us control spacing around elements, while **box-sizing** ensured padding and borders didn’t inflate element sizes.

Week 7

We also delved into animations using **keyframes**, bringing life to web designs. Gradients were a highlight, blending colors smoothly and creating a beautiful **circle with a gradient fill**. In Python, we focused on foundational coding practice, sharpening problem-solving and logic-building skills. It was a

solid start to mastering web design and programming fundamentals!

Week 8

we dived into HTML/CSS concepts like cursor styles, currentColor, media queries (including desktop-specific), and mastering overflow properties (visible, hidden, scroll, auto). The day wrapped up with focused practice.we brought more CSS fun with transform, transition, and image reflection techniques.

Week 9

We explored max-width, box-border, outline borders, and border images, followed by hands-on coding.Core Python basics were revisited alongside rigorous practice to solidify foundational concepts. It was a productive week of learning and implementation!

Week 10

we started with an introduction to simple coding, focusing on variable declaration in HTML and CSS. We explored interactive buttons using the onclick event and practiced basic coding tasks. we delved into PD classes. we tackled arrays, learning how to find positions, measure lengths, and use various array functions like sorting, reversing, and modifying arrays with methods like push, pop, and shift. We also covered filtering techniques like some, every, and filter. The week concluded with core Python practice.

Week 11

array operations and loops in JavaScript. We explored typeOf and isArray to understand array types, followed by working with multidimensional arrays. Key array methods like indexOf, slice, splice, reduce, and map were introduced, alongside combining arrays using concat. We also practiced loops, including for,

for..in(), for..of(), and forEach(), to iterate through arrays. The week concluded with a doubt session, addressing any lingering questions.

Week 12

We focus on loops, exploring various practical examples to solidify understanding. We also delved into Django, starting with its introduction and installation . This week covered the fundamental folder structure of a Django project and an overview of its framework. This foundational knowledge set the stage for further exploration and development in Django.

Week 13

I focused on setting up a superuser administrator and learning how to configure routing in Django using urls.py and adding necessary links. I worked on rendering HTML pages by creating templates, adjusting settings.py, and configuring views.py and urls.py. The next day, I attended a doubt session and explored the pd class. I also learned how to call CSS, JS, and images in Django to style the pages effectively. I delved into the GET and POST methods in Django, enhancing my understanding of request.

Week 14

Django learning journey, we focused on key concepts like HTTP methods—GET and POST—along with handling CSRF tokens in forms for security. On August 28, we explored how to create and manage models in Django, allowing us to update, delete, and add records. we installed SQLite as our database and learned how to send four values to the database. Finally, we had a doubt session to clarify any lingering questions

Week 15

we focused on setting up the basic structure of a Django project. We started by configuring important files like settings.py and views.py to manage URLs and user contact forms. The form values were captured using request.POST.get() and processed in views.py to store them in the database. To ensure easy management, we created an admin.py file for backend administration, integrated urls.py to map URLs, and set up the app.py file to define our app's configurations. we spent time practicing these fundamentals, and on we successfully implemented form data storage into the database.

Week 16

practice and clearing doubts. doubt session was held to address any issues from previous learning. The weekend was off, followed by hands-on work with Django queries on September 9th and 10th. was dedicated to more practice, reinforcing the concepts learned so far. a dedicated doubt session for the PD class was held to help resolve any uncertainties.

Week 17

SQL journey began with an introduction to databases and SQL, followed by installing XAMPP and accessing phpMyAdmin on localhost. we learned the basics of SQL queries such as SELECT, UPDATE, INSERT, and DELETE. The following day, we delved into operations like deleting records, updating, and adding new ones. we explored SQL aggregate functions like MAX, MIN, COUNT, SUM, and AVG. The week concluded with a doubt session on Friday, with the weekend off for relaxation and review.

Week 18

understanding basic concepts like sorting and grouping data. we began with exploring the "Orders" feature, focusing on both ascending and descending order commands. The following days, from were spent practicing these concepts, ensuring a clear understanding of their application. A doubt session on allowed for addressing any lingering questions. The weekend, was set aside as a break, giving everyone the chance to rest and recharge for the next week of learning.

Week 19

we explored Python libraries starting with the installation and version check of the Numpy library. We learned about creating arrays and slicing them using Numpy’s powerful features like the ndim method. The week also focused on understanding various data types in Python, including strings, integers, floats, and booleans, and how to work with them in arrays. Additionally, we explored Numpy’s copy() and view() methods for efficient data manipulation.

Week 20

we delved deeper into array manipulation techniques with Numpy. We learned how to use the shape() method and concatenate arrays along various axes using concatenate(), hstack(), vstack(), and dstack() for different stacking methods. We also explored how to split arrays, search for specific elements using the where() method, and sort arrays. Furthermore, we experimented with random number generation using methods like randint() and rand(), generating numbers based on array size or shape. The week concluded with a session on the Pandas class and a doubt session.

Week 21

we advanced our knowledge of Numpy, learning to use methods like choice() for random number generation and shuffle() for rearranging array elements. We also explored matrix operations such as full() to create matrices and string methods like capitalize(), upper(), and lower() for text manipulation. Further, we studied matrix transformations with dot() for multiplication and transpose() for switching rows and columns. Statistical functions like amax(), amin(), mean(), and sum() were introduced for analyzing arrays. The week concluded with an introduction to the Pandas library, where we learned to work with DataFrame(), read CSV and JSON files, and perform data cleaning techniques.

Week 22

Learn basic of machine learning and using python libraries using ml technologies. We working with frontend technologies and building a project using these tools. The first few days were dedicated to developing the project using HTML, CSS, and JavaScript, honing skills to create interactive and visually appealing websites. Mid-month, we shifted to using Django for backend development, learning how to integrate frontend work with Django’s backend functionality. Later, we connected the project to a database, ensuring data handling was smooth and efficient. The month concluded with final testing of the project to ensure everything was functioning correctly before wrapping up. Documentation project report+ daily dairy +ppt+final report