

## Internship Report – Day 9

In today's morning session, I learned about arrays, if statements, and loops in JavaScript. These are important concepts that help in handling and processing data effectively.

An array is a way to store multiple values together in an organized manner. Instead of keeping separate values, an array helps group related items in one place. This makes it easier to access and manage data, especially when working with lists. For example, storing a collection of colors or names in an array allows easy retrieval and modification when needed. Arrays make handling large amounts of information simpler.

Another important concept was if statements, which allow making decisions based on conditions. If a certain condition is met, an action takes place; otherwise, it is skipped. This is useful in situations where different actions need to be performed based on given conditions. For example, checking if a number is positive or negative can be done using an if statement. If the number is greater than zero, one action is taken, and if it is less than zero, another action can be performed.

The last topic in the morning session was loops, which are used to repeat a process multiple times. A for loop helps execute the same task multiple times without writing the same steps repeatedly. This is useful when working with lists or performing actions in a sequence. Instead of manually writing the same steps over and over again, loops help automate repetitive tasks. For example, when counting numbers from 1 to 100, a loop makes it easy to display all the numbers without having to write each one individually.

Loops are also helpful in handling large amounts of data, such as going through a list of names and displaying each one. They reduce manual effort and make processes more efficient. The morning session provided a better understanding of how arrays store data, how if statements help in decision-making, and how loops simplify repetitive tasks. Learning these concepts will help in handling different situations effectively.

then, i learned Basics of Programming language and How Code Works

Today, I learned about the fundamentals of programming language and how code works. Programming is a way to give instructions to a computer so that it can perform specific task. Programming languages help us communicate with computers. To write a program, we need to follow rules (called syntax) and make sure the code makes sense (called semantics). Syntax is like grammar in English, where sentences need to be written correctly. For example, just like we say "The cat sat.", a program must follow its own set of rules.

A compiler is a tool that translates our code into a language the computer understands. Every programming language has basic building blocks like letters, numbers, and special symbols. These form words and expressions that create the instructions a computer follows.

There are different types of programming languages. Assembly language is closer to how computers work, while high-level languages (like Python or Java) are easier for humans to read and write. A program follows a plan called an *\*algorithm\**, which is a step-by-step method to solve a problem. Learning these basics helps us write better programs and understand how computers follow our instructions.