**Synchronous Code:**

Synchronous code execution mein, tasks ek ke baad ek sequence mein perform hote hain. Har task ko complete hone se pehle agla task shuru hota hai. Program ek task ka intezaar karta hai takay agla task shuru ho sake. Iss approach mein, agar koi time-consuming task hai jaise ke file se data read karna ya server se data fetch karna, toh pura program hold ho sakta hai.

Yahan ek simple synchronous code ka example hai:

console.log("Task 1");

console.log("Task 2");

console.log("Task 3");

Ismein Task 2 Task 1 ke complete hone ka intezaar karega, aur Task 3 Task 2 ke complete hone ka intezaar karega.

**Asynchronous Code:**

Asynchronous code execution mein, tasks ko shuru kiya ja sakta hai aur unhe background mein run hone diya ja sakta hai jab tak program doosre tasks ke saath jaari rahe. Ismein non-blocking behavior hota hai, yani program ko kisi task ka intezaar nahi karna padta hai. Asynchronous code ka istemal tab kiya jata hai jab koi task thoda waqt le sakta hai, jaise ke server se data fetch karna.

Yahan ek simple asynchronous code ka example hai callback function ke istemal se:

console.log("Task 1");

// Asynchronous task

setTimeout(function() {

console.log("Task 2");

}, 2000);

console.log("Task 3");

**API**

JavaScript mein API (Application Programming Interface) ek set hota hai jo ek software application ke taur par doosre software applications ke saath communication karne ke liye design kiya gaya hota hai. Yeh ek bridge ka kaam karta hai, jisse applications ek doosre se data share kar sakti hain.

**API ka istemal kyun hota hai?**

**Data Access:**

APIs ka upayog data access ke liye hota hai. Web APIs, server se data fetch karne aur bhejne mein madad karte hain. Isse applications apne data ko update aur share kar sakti hain.

**Integration:**

APIs, alag-alag systems aur services ko integrate karne mein madad karte hain. Kisi bhi third-party service ka istemal karke, aap apni application mein additional functionality add kar sakte hain.

**Functionality Extension:**

APIs ke through, aap kisi bhi service ya application ki functionality ko extend kar sakte hain. For example, Google Maps API ka istemal karke aap apni website mein maps integrate kar sakte hain.

**Automation:**

APIs automation ko facilitate karte hain. Automated tasks, jaise ki data synchronization, server communication, etc., ko APIs ke through manage kiya ja sakta hai.

**API kaise use kiya ja sakta hai?**

JavaScript mein API ka istemal kuch is tarah se hota hai:

AJAX (Asynchronous JavaScript and XML):

AJAX ka istemal kisi bhi API se asynchronous data fetch karne ke liye hota hai. XMLHttpRequest object ka upayog karte hue aap server se data fetch kar sakte hain aur page ko refresh kiye bina use update kar sakte hain.