UNIT - 2

1. Experiment Write JavaScript programs demonstrating variables, functions, and objects

**Aim:**  
To implement a JavaScript program that demonstrates declaration of variables, creation of functions (regular and arrow), and definition of objects with properties and methods.

**Tools Required:**

* Web browser (Chrome/Firefox)
* Text editor (VS Code/Notepad++)

**Procedure:**

1. Create a folder named **js\_basics**.
2. Inside the folder, create one file:
   * index.html
3. Write the basic structure of an HTML document in index.html.
4. Add a <div> with an id output to display results.
5. Inside the <script> tag, declare variables using let, const, and var.
6. Define functions:
   * A regular function (greet)
   * An arrow function (square)
7. Create an object (student) with properties and methods.
8. Use the DOM (document.getElementById) to print outputs on the webpage.
9. Save the file and open it in a browser.
10. Verify that variables, function outputs, and object information are displayed.

**Source Code:**

index.html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>JavaScript Basics</title>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

background-color: #f9f9f9;

}

#output {

background: #fff;

padding: 15px;

border-radius: 10px;

box-shadow: 0 2px 5px rgba(0,0,0,0.1);

}

h1 { color: #007acc; }

</style>

</head>

<body>

<h1>JavaScript Program — Variables, Functions, and Objects</h1>

<div id="output"></div>

<script>

// --- VARIABLES ---

let name = "Suresh"; // block-scoped variable

const pi = 3.14159; // constant

var age = 25; // function-scoped (legacy)

// --- FUNCTIONS ---

function greet(userName) {

return "Hello, " + userName + "!";

}

const square = (num) => num \* num; // arrow function

// --- OBJECT ---

const student = {

id: 101,

fullName: "Sita Ram",

marks: { math: 85, science: 92 },

displayInfo: function() {

return `ID: ${this.id}, Name: ${this.fullName}`;

}

};

// --- OUTPUT TO PAGE ---

const out = document.getElementById("output");

out.innerHTML = `

<p><b>Variables:</b><br>

name = ${name}, age = ${age}, pi = ${pi}</p>

<p><b>Functions:</b><br>

greet("Suresh") → ${greet(name)}<br>

square(5) → ${square(5)}</p>

<p><b>Object:</b><br>

student.displayInfo() → ${student.displayInfo()}<br>

Math Marks = ${student.marks.math}, Science Marks = ${student.marks.science}</p>

`;

</script>

</body>

</html>

**Expected Output:**

* The webpage displays variable values (name, age, pi).
* It shows function outputs (greet and square).
* It displays the student object information (ID, Name, Marks).

**Result:**  
The JavaScript program was successfully created and executed. The output demonstrates correct usage of variables, functions, and objects in JavaScript.