Chapter 3

1. if Statement



The if statement executes a block of code only if the condition is true.

let age = 20; if (age >= 18) { console.log("You are an adult."); }

2. if-else statement

✓ Definition:

Executes one block if the condition is true, otherwise executes another block.

let number = 10; if (number % 2 === 0) { console.log("Even number"); } else {
console.log("Odd number");
}

3. if-else if-else statement

Definition:

Checks multiple conditions and executes the first matching block.

let score = 85;
if (score >= 90) {
console.log("Grade: A");
} else if (score >= 75) {
console.log("Grade: B");
} else {
console.log("Grade: C");
}

4. Switch Statement

✓ Definition:

Used to check multiple cases for a variable.

let day = 3; switch (day) { case 1: console.log("Monday"); break. case 2: console.log("Tuesday"); break, case 3: console.log("Wednesday"); break. default: console.log("Invalid day"); }

5. for Loop

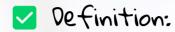
✓ Definition:

Repeats a block of code a known number of times.

for (let i = 1; i <= 5; i++) {

console.log("Iteration:", i);
}

6. While Loop



Repeats a block of code while a condition is true.

let count = 1;
while (count <= 5) {
 console.log("Count:", count);
 count++;
}</pre>

7. do-while Loop

✓ Definition:

Executes the loop at least once, then checks the condition.

let num = 1; do { console.log("Number:", num); numtt;

} while (num <= 5);

8. for ... in Loop

✓ Definition:

Iterates over the keys of an object.

let student = { name: "Alice", age: 22, grade: "A" };
for (let key in student) {
console.log(key, ":", student[key]);
}

- 9. for ... of Loop
- ✓ Definition:

Iterates over the values of an iterable (array, string).

let numbers = [10, 20, 30]; for (let num of numbers) { console.log(num); } 10. break Statement



Exits a loop immediately.

II. continue Statement

✓ Definition:

Skips the current iteration and continues.

12. Labeled Statements

✓ Definition:

Allows breaking/continuing nested loops.

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outerloop:

for (let i = 1; i <= 3; i++) {

for (let j = 1; j <= 3; j++) {

if (i === 2 && j === 2) {

break outerloop;

}

console.log(`i=${i}, j=${i}`);

}
```