Post-Notes on Conditional Statements, Switch Statement, Ternary Operator, and Logical Operators

Definition of Conditional Statements

Conditional statements are constructs that allow the execution of different code blocks based on whether a specified condition evaluates to true or false. They are crucial for implementing decision-making logic in applications.

1. Example of if Statement

let age = 20;

if (age >= 18) {

console.log("You are an adult."); *// Output: You are an adult.*

}

In this example, the code checks if the variable age is 18 or older. If true, it executes the block that prints a message indicating adulthood.

1. Example of if...else Statement

let score = 45;

if (score >= 60) {

console.log("You passed the exam."); *// Output: You failed the exam.*

} else {

console.log("You failed the exam.");

}

Here, the program checks if the score is 60 or more. If it is, it prints a success message; otherwise, it indicates failure.

1. Example of else if Statement

let temperature = 25;

if (temperature > 30) {

console.log("It's hot outside.");

} else if (temperature < 15) {

console.log("It's cold outside.");

} else {

console.log("The weather is moderate."); *// Output: The weather is moderate.*

}

This example demonstrates how to evaluate multiple conditions. Depending on the value of temperature, different messages are printed.

1. Example of Switch Statement

let fruit = "apple";

switch (fruit) {

case "banana":

console.log("You chose a banana.");

break;

case "apple":

console.log("You chose an apple."); *// Output: You chose an apple.*

break;

default:

console.log("Unknown fruit.");

}

In this switch statement, the code checks the value of fruit and executes the corresponding case block.

1. Example of Ternary Operator

let age = 16;

let canVote = (age >= 18) ? "You can vote." : "You cannot vote."; *// Output: You cannot vote.*

console.log(canVote);

The ternary operator provides a concise way to assign a value based on a condition, checking if age is 18 or older.

1. Example of Logical Operators
2. AND Operator (&&):

let isAdult = true;

let hasID = true;

if (isAdult && hasID) {

console.log("You can enter the club."); *// Output: You can enter the club.*

}

In this case, both conditions must be true for the message to be printed.

1. OR Operator (||):

let hasTicket = false;

let knowsTheOwner = true;

if (hasTicket || knowsTheOwner) {

console.log("You can enter the event."); *// Output: You can enter the event.*

}

Here, either condition being true allows entry.

1. NOT Operator (!):

let isBanned = false;

if (!isBanned) {

console.log("You are allowed to participate."); *// Output: You are allowed to participate.*

}

The NOT operator inverts the value of isBanned, allowing participation if not banned.