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Assignment
- unit-II

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⇒ ①

Write a Program using if-else and switch Statement

```
let num = 7
if (num > 0) {
    console.log("The num is positive");
} else if (num < 0) {
    console.log("The num is negative.");
} else {
    console.log("The Number is zero.");
}
```

```
//Switch statement

let day = 3;
let dayName;

switch (day) {
    case 1:
        dayName = "Monday";
        break;
    case 2:
```

```
    dayName = "Tuesday";
    break;
case 3:
    dayName = "Wednesday";
    break;
case 4:
    dayName = "Thursday";
    break;
case 5:
    dayName = "Friday";
    break;
case 6:
    dayName = "Saturday";
    break;
case 7:
    dayName = "Sunday";
    break;
default:
    dayName = "Invalid day";
}
console.log("The day is: " + dayName);
```

Explanation:

i) The if-else block checks whether a Num is Positive Negative, or Zero

ii) The switch statement selects a day Name based on an integer value

iii) This Program uses Multiple control Structures in Combination as Required.

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(2) Explain How while loop Differs from for loop.

While loop:

Purpose: used when The Number of iterations is unknown

Structure: only condition is written in The loop header

Best use: Running until a condition becomes false case

Example: while(i<5)

Control: You Must Manually update The counter Inside The loop

For loop:

Purpose: used when the Number of iterations is known

Structure: initialization, condition, and update are written together

Best use case: Running a specific Number of Times (Count-controlled)

Example: for (int i = 0; i < 5; i++) {...}

Control: Counter updates automatically in the loop header.

⇒ Structure Difference

⇒ Usage purpose

⇒ Control flow

⇒ Readability

⇒ Risk of Infinite loops

⇒ flexibility

⇒ Initialization.