Conditional statements: In JavaScript, **conditional statements** are used to perform different actions based on different conditions. They allow a program to make decisions and execute certain blocks of code only when specific conditions are met. The most common types of conditional statements in JavaScript include if, else if, else.

if: Tests the initial condition. If true, the code inside this block is executed.

else if: Provides additional conditions to test if the initial if condition is false.

else: Executes if none of the if or else if conditions are met.

1.Traffic Light System

Simulate a traffic light system:

If the light is red, log "Stop."

If the light is yellow, log "Get ready to move."

If the light is green, log "Go."

If the input doesn't match any color, log "Invalid input."

Sol:

```
var light="pink";
if(light=="red")
{console.log("stop")}
else if(light=="yellow")
{console.log("Get ready to move.")}
else if(light=="green")
{console.log("go")}
else{
console.log("invalid input")}
```

O/P: invalid input

Explanation:

- At first the program checks the value of the light variable.
- It runs different pieces of code depending on whether the value is "red", "yellow", or "green".

- If the value doesn't match any of these, the default case (else) runs, printing "invalid input".
- Since the value of light is "pink", which isn't a valid traffic light color in the logic, "invalid input" is logged to the console.

2.Weather Description (Temperature Descriptions)

Write a program that describes the temperature:

If the temperature is exactly 0, log "It's freezing cold."

If the temperature is exactly 15, log "It's a cool day."

If the temperature is exactly 25, log "It's a pleasant day."

If the temperature doesn't match any of these, log "Unknown weather."

Sol:

```
var temperature=15;
if(temperature==0){console.log("It's freezing cold.")}
else if(temperature==15){ console.log("It's a cool day.")}
else if(temperature==25){console.log("It's a pleasant day.")}
else{console.log("Unknown weather.")}
```

O/P: It's a cool day.

Explanation:

- The program checks the value of the temperature variable.
- It prints "It's freezing cold." if the temperature is 0, "It's a cool day." if the temperature is 15, and "It's a pleasant day." if the temperature is 25.
- If the temperature doesn't match any of these values, the default message "Unknown weather." is displayed.
- In this case, since the temperature is 15, the program prints "It's a cool day." to the console.

3. Day of the Week

Create a program that takes input of a number representing the day of the week (1-7):

If the number is 1, log "Today is Monday."

If the number is 2, log "Today is Tuesday."

If the number is 3, log "Today is Wednesday."

If the number is 4, log "Today is Thursday."

If the number is 5, log "Today is Friday."

If the number is 6, log "Today is Saturday."

If the number is 7, log "Today is Sunday."

If the input is not between 1 and 7, log "Invalid day number."

Sol:

```
var number=7;
if(number==1){console.log("Today is Monday.")}
if(number==2){console.log("Today is tuesday.")}
if(number==3){console.log("Today is wednesday.")}
if(number==4){console.log("Today is thursday.")}
if(number==5){console.log("Today is friday.")}
if(number==6){console.log("Today is saturday.")}
if(number==7){console.log("Today is sunday")}
else{console.log("Invalid day number.")}
```

O/P: Today is Sunday

Explanation:

- The program checks the value of the number variable.
- It prints " Today is Monday." if the number is 1, " Today is Tuesday " if the number is 2, "today is Wednesday." if the number is 3, " Today is Thursday " if the number is 4, " Today is Friday " if the number is 5, " Today is Saturday " if the number is 6, " Today is Sunday" if the number is 7,
- If the number doesn't match any of these values, the default message " Invalid day number." is displayed.
- In this case, since the number is 7, the program prints " Today is Sunday" to the console.