Conditionals In JavaScript:

Use Case:

```
Scenario: On an e-commerce website, show a message when a product is out of stock.

Question:
Write a program to check if the stock of a product is 0. If it is, display the message "Product is out of stock.".
```

Solution:

```
let productStock = 0; // Number: Represents the stock of a product

if (productStock === 0) {
  console.log("Product is out of stock.");
} else {
  console.log("Product is in stock.");
}
```

A **Conditional statement** lets your code make **decisions**. It checks if something is **true or false**, and then runs certain code based on that.

```
if (condition) {
    // code to run if the condition is true
} else {
    // code to run if the condition is false
}
```

For Example:

"If it's raining, take an umbrella. Otherwise, enjoy the sunshine!"

```
let wheather = "rainy";

if (wheather === "rainy") {
    console.log("Take an umbrella");
} else {
    console.log("enjoy the sunshine!");
}
```

Different Types of Conditional Statements

1. if Statement
2. if...else Statement
3. if...else if...else (Also called "Else-If Ladder")
4. Nested if Statements
5. switch Statement
6. Ternary Operator [? :] (short form)

1. if Statement

```
if (temperature > 30) {
    console.log("It's hot outside!");
}
```

2. if...else Statement

```
if (age >= 18) {
    console.log("You can drive!");
} else {
    console.log("You can not drive!")
}
```

3. if...else if...else (Also called "Else-If Ladder")

```
if (score >= 90) {
    console.log("Grade: A");
} else if (score >= 80) {
    console.log("Grade: B");
} else if (score >= 70) {
    console.log("Grade: C");
} else {
    console.log("You need to study more.");
}
```

4. Nested if Statements

```
if (age >= 18) {
    if (hasID) {
        console.log("You can enter the club.");
    } else {
        console.log("You need an ID.");
    }
} else {
    console.log("You're too young to enter.");
}
```

3. Switch Statement

```
switch (color) {
    case "red":
        console.log("Stop");
        break;
    case "yellow":
        console.log("Caution");
        break;
    case "green":
        console.log("Go");
        break;
    default:
        console.log("Unknown color");
}
```

4. Ternary Operator [? :] (short form)

```
let message = isLoggedIn ? "Welcome back!" : "Please log in.";
```

Challenge 1:

Scenario: A website gives discounts based on the total shopping cart amount.

Question:
Write a program where:

If the cart value is less than $50, no discount is applied.
If the cart value is between $50 and $100, apply a 10% discount.
If the cart value is more than $100, apply a 20% discount.
Display the final cart total after the discount.

Solution:

```
let cartValue = 120; // Example: Total shopping cart amount
let finalCartValue;

if (cartValue < 50) {
  finalCartValue = cartValue;
  console.log("No discount applied.");
} else if (cartValue >= 50 && cartValue <= 100) {
  finalCartValue = cartValue - (cartValue * 0.1); // Apply 10% discount
  console.log("A 10% discount has been applied.");
} else {
  finalCartValue = cartValue - (cartValue * 0.2); // Apply 20% discount
  console.log("A 20% discount has been applied.");
}

console.log(`The final cart total is ${finalCartValue.toFixed(2)}.`);
```

Challenge 2:

Scenario: On a video-streaming platform, verify user access to premium content.

Question:
Write a program to check if a user has a valid subscription. If the user has a subscription, further check if the subscription is "premium" or "standard".

If "premium", display "Access to all content".
If "standard", display "Access to limited content".
If the user doesn't have a subscription, display "Please subscribe to access content.".

Solution:

```
let hasSubscription = true; // Boolean: Does the user have a subscription?
let subscriptionType = "premium"; // String: Subscription type ("premium" or "standard")

if (hasSubscription) {
  if (subscriptionType === "premium") {
    console.log("Access to all content");
  } else if (subscriptionType === "standard") {
    console.log("Access to limited content");
  } else {
    console.log("Unknown subscription type");
  }
} else {
  console.log("Please subscribe to access content.");
}

```

Q.1- Give choice to the user to select theme color and set the selected theme color and console it.

Q.2- Find the smallest of three numbers. Numbers are given by the user.

Q.3- Write a program to manage Role-Based Access Control

Given a user role ("admin", "editor", "viewer"):

Admin: full access

Editor: edit access

Viewer: read-only

Any other: no access

Use switch.

Q.4- Check if Number is Divisible by 3 or 5 or Both. Print "Fizz" for multiples of 3,"Buzz" for multiples of 5,

"FizzBuzz" for both.

Q.5- Create a simple calculator. Take two numbers and an operator (+, -, *, /) and calculate the result using switch.

Q.6- Create a simple ATM program.

User can choose:

1. Check Balance
2. Deposit
3. Withdraw
4. Exit

Note that in case of “Deposit” if deposit amount is less than 1Rs produce error otherwise deposit the amount and show the message with a new balance. And in case of “Withdraw” if withdraw amount is greater than balance then or less than 1Rs then produce error otherwise withdraw amount and show remaining balance.