**Exercise 1: Checking Age Eligibility**

**Task:** Check if a person is eligible to vote based on their age. Print "Eligible to vote" if the age is 18 or older, and "Not eligible to vote" if the age is less than 18.

const age = 20; // Change this value to test different ages

if (age >= 18) {

console.log("Eligible to vote");

} else {

console.log("Not eligible to vote");

}

**Exercise 2: Grading System**

**Task:** Determine the grade based on the score. Print:

* "A" for scores 90 and above
* "B" for scores 80 to 89
* "C" for scores 70 to 79
* "D" for scores 60 to 69
* "F" for scores below 60

const score = 85; // Change this value to test different scores

if (score >= 90) {

console.log("A");

} else if (score >= 80) {

console.log("B");

} else if (score >= 70) {

console.log("C");

} else if (score >= 60) {

console.log("D");

} else {

console.log("F");

}

**Exercise 3: Temperature Check**

**Task:** Print the temperature description based on the Celsius temperature:

* "It's freezing!" if the temperature is below 0°C
* "It's cold" if the temperature is between 0°C and 15°C
* "It's warm" if the temperature is between 16°C and 25°C
* "It's hot" if the temperature is above 25°C

const temp = 10; // Change this value to test different temperatures

if (temp < 0) {

console.log("It's freezing!");

} else if (temp <= 15) {

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

} else if (temp <= 25) {

console.log("It's warm");

} else {

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

}

**Exercise 4: Day of the Week**

**Task:** Check if the day is a weekend or a weekday. Print "It's the weekend" if the day is Saturday or Sunday, and "It's a weekday" otherwise.

const day = "Saturday"; // Change this value to test different days

if (day === "Saturday" || day === "Sunday") {

console.log("It's the weekend");

} else {

console.log("It's a weekday");

}

**Exercise 5: Price Discount**

**Task:** Determine the final price based on whether a discount is applied. If hasDiscount is true, apply a 10% discount to the price. Print the final price.

const price = 100; // Change this value to test different prices

const hasDiscount = true; // Change this value to true or false

if (hasDiscount) {

console.log(price \* 0.9); // Apply 10% discount

} else {

console.log(price);

}

**Exercise 6: Voting Eligibility**

**Task:** Determine if a person is eligible to vote based on their citizenship and age. Print:

* "Eligible to vote" if the person is a citizen and 18 or older.
* "Not eligible to vote" otherwise.

const isCitizen = true; // Change to false to test non-citizens

const age = 20; // Change to test different ages

if (isCitizen && age >= 18) {

console.log("Eligible to vote");

} else {

console.log("Not eligible to vote");

}

**Exercise 7: Checking Even or Odd**

**Task:** Check if a number is even or odd. Print "Even number" if the number is even, and "Odd number" if the number is odd.

const number = 7; // Change this value to test different numbers

if (number % 2 === 0) {

console.log("Even number");

} else {

console.log("Odd number");

}

**Exercise 8: Age Category**

**Task:** Categorize a person based on their age into one of the following categories:

* "Child" for ages 0-12
* "Teenager" for ages 13-19
* "Adult" for ages 20-64
* "Senior" for ages 65 and above

const age = 30; // Change this value to test different ages

if (age >= 0 && age <= 12) {

console.log("Child");

} else if (age >= 13 && age <= 19) {

console.log("Teenager");

} else if (age >= 20 && age <= 64) {

console.log("Adult");

} else if (age >= 65) {

console.log("Senior");

} else {

console.log("Invalid age");

}

**Exercise 9: Number Range**

**Task:** Check if a number is in a specific range. Print:

* "Within range" if the number is between 10 and 20 (inclusive).
* "Out of range" otherwise.

const number = 15; // Change this value to test different numbers

if (number >= 10 && number <= 20) {

console.log("Within range");

} else {

console.log("Out of range");

}

**Exercise 10: Check for Multiples**

**Task:** Check if a number is a multiple of both 3 and 5. Print "Multiple of 3 and 5" if true, and "Not a multiple of 3 and 5" otherwise.

const number = 30; // Change this value to test different numbers

if (number % 3 === 0 && number % 5 === 0) {

console.log("Multiple of 3 and 5");

} else {

console.log("Not a multiple of 3 and 5");

}

**Exercise 11: Password Strength**

**Task:** Determine the strength of a password based on its length. Print:

* "Strong password" if the length is 8 characters or more.
* "Weak password" if the length is less than 8 characters.

const password = "P@ssw0rd"; // Change this value to test different passwords

if (password.length >= 8) {

console.log("Strong password");

} else {

console.log("Weak password");

}

**Exercise 12: Form Validation for Age**

**Task:** Create a simple form that asks for the user's age. Upon submission, validate if the age is 18 or older. Display a message indicating whether the user is eligible or not.

**HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Age Validation</title>

</head>

<body>

<form id="ageForm">

<label for="age">Enter your age:</label>

<input type="number" id="age" name="age" required>

<button type="submit">Submit</button>

</form>

<p id="message"></p>

<script>

document.getElementById('ageForm').addEventListener('submit', function(event) {

event.preventDefault();

const age = parseInt(document.getElementById('age').value, 10);

const message = document.getElementById('message');

if (age >= 18) {

message.textContent = "Eligible to vote";

} else {

message.textContent = "Not eligible to vote";

}

});

</script>

</body>

</html>

**Exercise 13: Form Validation for Email**

**Task:** Create a form that takes an email address and validates if it contains "@" and ".com". Display a message indicating whether the email is valid or not.

**HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Email Validation</title>

</head>

<body>

<form id="emailForm">

<label for="email">Enter your email:</label>

<input type="email" id="email" name="email" required>

<button type="submit">Submit</button>

</form>

<p id="message"></p>

<script>

document.getElementById('emailForm').addEventListener('submit', function(event) {

event.preventDefault();

const email = document.getElementById('email').value;

const message = document.getElementById('message');

if (email.includes('@') && email.includes('.com')) {

message.textContent = "Valid email address";

} else {

message.textContent = "Invalid email address";

}

});

</script>

</body>

</html>

**Exercise 14: Form Validation for Password Strength**

**Task:** Create a form that takes a password and validates if it has at least 8 characters. Display a message indicating whether the password is strong or weak.

**HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Password Strength</title>

</head>

<body>

<form id="passwordForm">

<label for="password">Enter your password:</label>

<input type="password" id="password" name="password" required>

<button type="submit">Submit</button>

</form>

<p id="message"></p>

<script>

document.getElementById('passwordForm').addEventListener('submit', function(event) {

event.preventDefault();

const password = document.getElementById('password').value;

const message = document.getElementById('message');

if (password.length >= 8) {

message.textContent = "Strong password";

} else {

message.textContent = "Weak password";

}

});

</script>

</body>

</html>

**Exercise 15: Form Validation for Number Range**

**Task:** Create a form that asks for a number and checks if it is between 10 and 20 (inclusive). Display a message indicating whether the number is within range or out of range.

**HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Number Range</title>

</head>

<body>

<form id="numberForm">

<label for="number">Enter a number:</label>

<input type="number" id="number" name="number" required>

<button type="submit">Submit</button>

</form>

<p id="message"></p>

<script>

document.getElementById('numberForm').addEventListener('submit', function(event) {

event.preventDefault();

const number = parseInt(document.getElementById('number').value, 10);

const message = document.getElementById('message');

if (number >= 10 && number <= 20) {

message.textContent = "Within range";

} else {

message.textContent = "Out of range";

}

});

</script>

</body>

</html>

**Exercise 16: Form Validation for Gender Selection**

**Task:** Create a form that includes a dropdown menu for gender selection. Display a message based on the selected gender:

* "Selected Male" if "Male" is selected
* "Selected Female" if "Female" is selected
* "Gender not selected" for any other option

**HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Gender Selection</title>

</head>

<body>

<form id="genderForm">

<label for="gender">Select your gender:</label>

<select id="gender" name="gender" required>

<option value="">--Please choose an option--</option>

<option value="male">Male</option>

<option value="female">Female</option>

<option value="other">Other</option>

</select>

<button type="submit">Submit</button>

</form>

<p id="message"></p>

<script>

document.getElementById('genderForm').addEventListener('submit', function(event) {

event.preventDefault();

const gender = document.getElementById('gender').value;

const message = document.getElementById('message');

if (gender === 'male') {

message.textContent = "Selected Male";

} else if (gender === 'female') {

message.textContent = "Selected Female";

} else {

message.textContent = "Gender not selected";

}

});

</script>

</body>

</html>

These exercises cover various aspects of form handling and validation with JavaScript. Adjust the form fields and conditions as needed to match different scenarios.