Assignment-1(conditional statements)

Level-1

1. Get user input using the prompt (“Enter your age:”). If the user is 18 or older, give feedback: ' You are old enough to drive' but if not 18 give another feedback stating to wait for the number of years he needs to turn 18

// Prompt the user to enter their age

const age = prompt ("Enter your age:");

// Convert the input to a number

const age Number = parseInt(age);

// Check if the age is 18 or older

if (age Number >= 18) {

alert("You are old enough to drive.");

} else {

// Calculate the number of years needed to turn 18

const years To Wait = 18 – age Number;

alert(`You need to wait ${years To Wait} more year(s) to turn 18 and be able to drive.`);

}

o/p = You need to wait 6 more years to drive. [string.js:225:13](http://127.0.0.1:5501/string.js)

2. Compare the values of my Age and your Age using if … else. Based on

the comparison and log the result to console stating who is older (me

or you). Use prompt (“Enter your age:”) to get the age as input.

Let my age =20;

let your Age = prompt("Enter your age:");

let your Age Number = parseInt(your Age);

if (your Age Number > my Age) {

console.log ("You are older than me.");

} else if (your Age Number < my Age) {

console.log ("I am older than you.");

} else {

console.log ("We are the same age.");

}

o/p=

You are older than me. [string.js:234:13](http://127.0.0.1:5501/string.js)

3. Even numbers are divisible by 2 and the remainder is zero. How do

you check, if a number is even or not using JavaScript?

Function is Even(number) {

If (number % 2 == 0) {

return true;

} else {

return false;

}

}

Let number = 10;

If (is Even(number)) {

console.log(`${number} is an even number`);

} else {

console.log(`${number} is an odd number`);

}

o/p =>

54 is an even number . [string.js:242:13](http://127.0.0.1:5501/string.js)

4. Determine if a number is positive, negative, or zero.

Function check number(number) {

If (number > 0) {

Console.log(‘$(number) is a positive number.’);

} else if (number < 0) {

Console.log(‘$(number) is a negative number.’);

} else {

Console.log(‘$(number) is zero.’);

}

}

let number = prompt("Enter a number:");

let number Value = parse Float(number);

check Number (number Value);

o/p=>

54 is a positive number. [string.js:250:13](http://127.0.0.1:5501/string.js)

5. Check if a number is even or odd

// Function to check if a number is even or odd

function check Even Or Odd(number) {

if (number % 2 === 0) {

console.log(`${number} is an even number.`);

} else {

console.log(`${number} is an odd number.`);

}

}

let number = prompt ("Enter a number:");

let number Value = parseInt (number);

check Even Or Odd (number Value);

o/p=> 665 is an odd number. [string.js:262:13](http://127.0.0.1:5501/string.js)

6. Determine the largest among three numbers using nested if-else.

function findLargestNumber(a, b, c) { if (a >= b) {

if (a >= c) {

console.log(`${a} is the largest number.`);

} else {

console.log(`${c} is the largest number.`);

}

} else {

if (b >= c) {

console.log(`${b} is the largest number.`);

} else {

console.log(`${c} is the largest number.`);

}

}

}

const num1 = parse Float(prompt("Enter the first number:"));

const num2 = parse Float(prompt("Enter the second number:"));

const num3 = parse Float(prompt("Enter the third number:"));

find Largest Number(num1, num2, num3);

o/p=>

65 is the largest number. [string.js line 239 > srcScript:274:13](http://127.0.0.1:5501/string.js%20line%20239%20%3e%20srcScript)

7. Determine the grade based on a score.

// Function to determine the grade based on a score

function determine Grade(score) {

if (score >= 90 && score <= 100) {

console.log (`Your score is ${score}. Grade: A`);

} else if (score >= 80 && score < 90) {

console.log (`Your score is ${score}. Grade: B`);

} else if (score >= 70 && score < 80) {

console.log (`Your score is ${score}. Grade: C`);

} else if (score >= 60 && score < 70) {

console.log (`Your score is ${score}. Grade: D`);

} else if (score >= 0 && score < 60) {

console.log (`Your score is ${score}. Grade: F`);

} else {

console.log ("Invalid score. Please enter a score between 0 and 100.");

}

}

// Example usage

const score Input = prompt("Enter your score:");

const score = parse Float(score Input); // Convert input to a floating-point number

determine Grade(score);

0/p = A

B = 80

C

D = 65

F

Grade: B [string.js line 257 > srcScript:282:13](http://127.0.0.1:5501/string.js%20line%20257%20%3e%20srcScript)

8. Determine the type of triangle (equilateral, isosceles, or scalene)

// Function to determine the type of triangle

function determine Triangle Type (side1, side2, side3) {

if (side1 === side2 && side2 === side3) {

console.log ("The triangle is an Equilateral triangle.");

} else if (side1 === side2 || side1 === side3 || side2 === side3) {

console.log ("The triangle is an Isosceles triangle.");

} else {

console.log ("The triangle is a Scalene triangle.");

}

}

// Example usage

Let side1 = parse Float (prompt("Enter the length of the first side:"));

let side2 = parse Float (prompt("Enter the length of the second side:"));

let side3 = parse Float (prompt("Enter the length of the third side:"));

determine Triangle Type (side1, side2, side3);

o/p 🡺

The triangle is Scalene. [string.js line 265 > srcScript:300:13](http://127.0.0.1:5501/string.js%20line%20265%20%3e%20srcScript)

9. Check if the season is Autumn, Winter, Spring, or Summer. If the user

input is :

a. September, October, or November, the season is Autumn.

b. December, January, or February, the season is Winter.

c. March, April, or May, the season is Spring

d. June, July, or August, the season is Summer

// Function to determine the season based on the month

function determine Season(month) {

// Convert input to lowercase to handle different cases

const month Lower = month.to Lower Case();

if (month Lower === "september" || month Lower === "october" || month Lower === "november") {

console.log("The season is Autumn.");

} else if (month Lower === "december" || month Lower === "january" || month Lower === "february") {

console.log("The season is Winter.");

} else if (month Lower === "march" || month Lower === "april" || month Lower === "may") {

console.log("The season is Spring.");

} else if (month Lower === "june" || month Lower === "july" || month Lower === "august") {

console.log("The season is Summer.");

} else {

console.log("Invalid month. Please enter a valid month name.");

}

}

// Example usage

const month Input = prompt("Enter the name of the month:");

determine Season (month Input);

o/p =>

The season is Autumn. [string.js line 291 > srcScript:307:12](http://127.0.0.1:5501/string.js%20line%20291%20%3e%20srcScript)

The season is Autumn. [string.js line 265 > srcScript:307:12](http://127.0.0.1:5501/string.js%20line%20265%20%3e%20srcScript)

10. Check if a day is a weekend day or a working day. Your script will take the day as input.

// Function to determine if the day is a weekend or a working day

function check Day Type(day) {

// Convert input to lowercase to handle different cases

const day Lower = day. To Lower Case();

if (day Lower === "saturday" || day Lower === "sunday") {

console.log(`${day} is a weekend day.`);

} else if (

Day Lower === "monday" ||

day Lower === "tuesday" ||

day Lower === "wednesday" ||

day Lower === "thursday" ||

day Lower === "friday"

) {

console.log(`${day} is a working day.`);

} else {

console.log("Invalid day. Please enter a valid day name.");

}

}

// Example usage

const day Input = prompt("Enter the day of the week:");

check Day Type(day Input);

o/p=>

Monday is a working day. [string.js line 304 > srcScript:323:13](http://127.0.0.1:5501/string.js%20line%20304%20%3e%20srcScript)

Sunday is a weekend. [string.js line 247 > srcScript:321:13](http://127.0.0.1:5501/string.js%20line%20247%20%3e%20srcScript)

11. Determine the eligibility for a discount based on age and purchase

amount

1. age >=60

2.purchaseAmount > 500 print the Discount of 20% else 10%

3.purchaseAmount > 1000 print the Discount of 15%" else no

discount is available.

// Function to determine discount eligibility based on age and purchase amount

function determine Discount(age, purchase Amount) {

let discount = 0;

if (age >= 60) { // Senior discount condition

if (purchase Amount > 1000) {

discount = 0.15; // 15% discount for senior with purchase over 1000

} else if (purchase Amount > 500) {

discount = 0.20; // 20% discount for senior with purchase over 500

} else {

discount = 0.10; // 10% discount for senior with purchase <= 500

}

} else { // Non-senior discount condition

if (purchase Amount > 1000) {

discount = 0.15; // 15% discount for non-senior with purchase over 1000

} else {

discount = 0; // No discount for non-senior with purchase <= 1000

}

}

// Output the result

if (discount > 0) {

console.log(`You are eligible for a ${discount \* 100}% discount.`);

} else {

console.log("No discount is available.");

}

}

// Example usage

const ageInput = prompt("Enter your age:");

const purchase Amount Input = prompt("Enter your purchase amount:");

const age = parseInt(ageInput);

const purchase Amount = parseFloat (purchase Amount Input);

determine Discount(age, purchase Amount);

o/p=>

You are eligible for a 15% discount. [string.js line 304 > srcScript:337:13](http://127.0.0.1:5501/string.js%20line%20304%20%3e%20srcScript)

Level-2

1. Write a code that can give grades to students according to theirs scores:

80-100, A

70-89, B

60-69, C

50-59, D

0-49, F

// Function to determine the grade based on a student's score

function assign Grade(score) {

if (score >= 80 && score <= 100) {

console.log(`Your score is ${score}. Grade: A`);

} else if (score >= 70 && score <= 79) {

console.log(`Your score is ${score}. Grade: B`);

} else if (score >= 60 && score <= 69) {

console.log(`Your score is ${score}. Grade: C`);

} else if (score >= 50 && score <= 59) {

console.log(`Your score is ${score}. Grade: D`);

} else if (score >= 0 && score <= 49) {

console.log(`Your score is ${score}. Grade: F`);

} else {

console.log("Invalid score. Please enter a score between 0 and 100.");

}

}

// Example usage

const score Input = prompt("Enter the student's score:");

const score = parse Float(score Input); // Convert input to a floating-point number

assign Grade(score);

o/p 🡺 Grade: A

Grade: F

2. Write a program that tells the number of days in a month

// Function to determine the number of days in a month

function getDaysInMonth(month, year) {

// Convert the month input to lowercase to handle different cases

const monthLower = month.toLowerCase();

switch (monthLower) {

case "january":

case "march":

case "may":

case "july":

case "august":

case "october":

case "december":

console.log(`${month} has 31 days.`);

break;

case "april":

case "june":

case "september":

case "november":

console.log(`${month} has 30 days.`);

break;

case "february":

// Check if the year is a leap year

if ((year % 4 === 0 && year % 100 !== 0) || (year % 400 === 0)) {

console.log(`${month} has 29 days (leap year).`);

} else {

console.log(`${month} has 28 days.`);

}

break;

default:

console.log("Invalid month. Please enter a valid month name.");

}

}

// Example usage

const monthInput = prompt("Enter the name of the month:");

const yearInput = prompt("Enter the year:");

const year = parseInt (year Input); // Convert input to an integer

get Days In Month(month Input, year);

o/p=>

Number of days: 28

Number of days: 30

3. Write a program determining whether a given number is positive, negative,

or zero.

// Function to determine if a number is positive, negative, or zero

function checkNumberSign(number) {

if (number > 0) {

console.log(`${number} is a positive number.`);

} else if (number < 0) {

console.log(`${number} is a negative number.`);

} else {

console.log("The number is zero.");

}

}

// Example usage

const number Input = prompt("Enter a number:");

const number = parse Float(number Input); // Convert input to a floating-point number

check Number Sign(number);

output

10 is positive.

-5 is negative.

The number is zero.

4. A program checks whether a given letter is a vowel or a consonant

// Function to check if a letter is a vowel or a consonant

function checkVowelOrConsonant(letter) {

// Convert input to lowercase to handle uppercase letters

const lowerCaseLetter = letter.toLowerCase();

// Check if the letter is a vowel

if (

lower Case Letter === "a" ||

lower Case Letter === "e" ||

lowercase Letter === "i" ||

lowercase Letter === "o" ||

lowercase Letter === "u"

) {

console.log(`${letter} is a vowel.`);

} else if (lowercase Letter >= "a" && lowercase Letter <= "z") {

// Check if the letter is a consonant (valid alphabet letter)

console.log(`${letter} is a consonant.`);

} else {

console.log("Invalid input. Please enter a single letter.");

}

}

// Example usage

const letter Input = prompt("Enter a letter:");

check Vowel Or Consonant (letter Input);

output

a is a vowel.

b is a consonant.

5. Write a program that categorizes a user's age into "child," "teenager,"

"adult," or "senior."

function categorizeAge(age) {

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

console.log("You are a child.");

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

console.log("You are a teenager.");

} else if (age >= 20 && age <= 59) {

console.log("You are an adult.");

} else if (age >= 60) {

console.log("You are a senior.");

} else {

console.log("Invalid age.");

}

}

const ageInput = prompt("Enter your age:");

const age = parseInt(age Input);

categorize Age(age);

o/p

Category: Child

Category: Adult

6. Build a program that validates a username. If it's less than 6 characters,

print a warning; otherwise, print a welcome message.

function validate Username(username) {

if (username. length < 6) {

console.log("Username is too short. It must be at least 6 characters.");

} else {

console.log("Welcome, " + username + "!");

}

}

const username Input = prompt("Enter your username:");

validate Username(user name Input);

o/p

Warning: Username must be at least 6 characters long.

Welcome, username!

7. Write a script that checks if a given string has more than 10 characters.

function checkStringLength(str) {

if (str.length > 10) {

console.log("The string has more than 10 characters.");

} else {

console.log("The string has 10 or fewer characters.");

}

}

const string Input = prompt("Enter a string:");

check String Length (string Input);

o/p

The string has more than 10 characters.

The string has 10 or fewer characters.

8. Write a program that categorizes a book based on its genre (fiction,

non-fiction, science fiction, mystery, etc.)

function categorize Book Genre(genre) {

genre = genre.to Lower Case();

if (genre === "fiction" || genre === "non-fiction" || genre === "science fiction" || genre === "mystery") {

console.log(`The book is a ${genre} book.`);

} else {

console.log("Unknown genre.");

}

}

const genre Input = prompt("Enter the book genre:");

categorize Book Genre(genre Input);

o/p

The book is Fiction.

9. Implement a script that greets the user based on the time of day (morning,

afternoon, evening) using nested if-else statements.

function greet User Based On Time (hour) {

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

console.log("Good morning!");

} else if (hour >= 12 && hour < 18) {

console.log("Good afternoon!");

} else if (hour >= 18 && hour < 24) {

console.log("Good evening!");

} else {

console.log("Invalid hour.");

}

}

const hourInput = prompt("Enter the current hour (0-23):");

const hour = parseInt(hourInput);

greetUserBasedOnTime(hour);

o/p

Good morning!

Good afternoon!

10. Create a program that categorizes a number as "small" if it's less than 10,

"medium" if it's between 10 and 50, and "large" if it's greater than 50 using

nested if statements.

function categorize Number Size (number) {

if (number < 10) {

console.log("The number is small.");

} else if (number >= 10 && number <= 50) {

console.log("The number is medium.");

} else {

console.log("The number is large.");

}

}

const number Input = prompt("Enter a number:");

const number = parseInt (numberInput);

categorize Number Size (number);

o/p

The number is small.

The number is medium.

11. Build a program that categorizes a temperature as "low," "medium," or

"high" based on certain temperature thresholds using nested if

statements.

function categorize Temperature (temp) {

if (temp < 0) {

console.log("Temperature is low.");

} else if (temp >= 0 && temp <= 25) {

console.log("Temperature is medium.");

} else {

console.log("Temperature is high.");

}

}

const temp Input = prompt("Enter the temperature:");

const temp = parseFloat(temp Input);

categorize Temperature(temp);

o/p

Temperature: Low

Temperature: Medium

12. Write a program using a switch statement that takes a number

representing a day of the week (1 for Sunday, 2 for Monday, etc.) and

prints the corresponding day.

function day Of Week(day) {

switch (day) {

case 1:

console.log("Sunday");

break;

case 2:

console.log("Monday");

break;

case 3:

console.log("Tuesday");

break;

case 4:

console.log("Wednesday");

break;

case 5:

console.log("Thursday");

break;

case 6:

console.log("Friday");

break;

case 7:

console.log("Saturday");

break;

default:

console.log("Invalid day number.");

}

}

const day Input = parseInt(prompt("Enter a number (1-7) for a day of the week:"));

day Of Week (day Input);

o/p

Thursday

13. Implement a script using a switch statement that takes a number

representing a month (1 for January, 2 for February, etc.) and prints the

corresponding month name.

function month Name(month) {

switch (month) {

case 1:

console.log("January");

break;

case 2:

console.log("February");

break;

case 3:

console.log("March");

break;

case 4:

console.log("April");

break;

case 5:

console.log("May");

break;

case 6:

console.log("June");

break;

case 7:

console.log("July");

break;

case 8:

console.log("August");

break;

case 9:

console.log("September");

break;

case 10:

console.log("October");

break;

case 11:

console.log("November");

break;

case 12:

console.log("December");

break;

default:

console.log("Invalid month number.");

}

}

const month Input = parseInt(prompt("Enter a number (1-12) for a month:"));

month Name(month Input);

o/p

April

Invalid month number.

14. Based on user input, create a program with a switch statement that

simulates a traffic light sequence (red, yellow, green).

function traffic Light(color) {

switch (color.to Lower Case()) {

case "red":

console.log("Stop!");

break;

case "yellow":

console.log("Get ready...");

break;

case "green":

console.log("Go!");

break;

default:

console.log("Invalid color.");

}

}

const color Input = prompt("Enter the traffic light color (red, yellow, green):");

traffic Light (color Input);

o/p

red

Stop!

Yellow

Caution! Prepare to stop.

Green

Go!

Blue

Invalid color.

15. Create a program using a switch statement that classifies a season

(spring, summer, fall, winter) based on a given month

function season By Month(month) {

switch (month.to Lower Case()) {

case "march":

case "april":

case "may":

console.log("Spring");

break;

case "june":

case "july":

case "august":

console.log("Summer");

break;

case "september":

case "october":

case "november":

console.log("Fall");

break;

case "december":

case "january":

case "february":

console.log("Winter");

break;

default:

console.log("Invalid month.");

}

}

const month Name Input = prompt("Enter the name of a month:");

season By Month(month Name Input);

o/p

5

Spring

11

Fall

0

Invalid month number.

16. Write a script with a switch statement that generates the sound of an

animal-based on user input (dog, cat, bird)

function animal Sound(animal) {

switch (animal.to Lower Case()) {

case "dog":

console.log("Woof!");

break;

case "cat":

console.log("Meow!");

break;

case "bird":

console.log("Chirp!");

break;

default:

console.log("Unknown animal.");

}

}

const animal Input = prompt("Enter an animal (dog, cat, bird):");

animal Sound(animal Input);

o/p

dog

Woof Woof!

Cat

Meow!

Lion

Unknown animal sound.

17. Implement a script with a switch statement that advises a car model based

on user preferences (sedan, SUV, sports car)

function advise Car Model(preference) {

switch (preference.to Lower Case()) {

case "sedan":

console.log("We recommend the Toyota Camry or Honda Accord for a reliable and comfortable sedan.");

break;

case "suv":

console.log("Consider the Ford Explorer or Toyota RAV4 for a spacious and versatile SUV.");

break;

case "sports car":

console.log("The Chevrolet Corvette or Porsche 911 would be great choices for a thrilling sports car experience.");

break;

default:

console.log("Invalid choice. Please select either 'sedan', 'SUV', or 'sports car'.");

}

}

const car Preference Input = prompt("Enter your car preference (sedan, SUV, sports car):");

advise Car Model(car Preference Input);

o/p

suv

We recommend the Toyota RAV4.

Sports car

We recommend the Ford Mustang.

Truck

Invalid car type.

18. Create a program that displays a menu and allows the user to select a

food item using a switch statement.

function display Menu() {

console.log("Select a food item from the menu:");

console.log("1. Pizza");

console.log("2. Burger");

console.log("3. Pasta");

console.log("4. Salad");

}

function selectFoodItem(choice) {

switch (choice) {

case 1:

console.log("You selected Pizza. A delicious choice!");

break;

case 2:

console.log("You selected Burger. A classic favorite!");

break;

case 3:

console.log("You selected Pasta. A great Italian dish!");

break;

case 4:

console.log("You selected Salad. A healthy option!");

break;

default:

console.log("Invalid choice. Please select a valid menu option (1-4).");

}

}

// Display the menu to the user

Display Menu();

const food Choice Input = parseInt(prompt("Enter the number corresponding to your choice (1-4):"));

select Food Item(food Choice Input);

o/p = Case 1: "Pizza"

Case 2: "Burger"

Case 3: "Pasta"

Case 4: "Salad"

Default: If the input doesn't match any case, it prints an error message

Level-3

1. Write a program that calculates the discount percentage based on the purchase

amount and applies different discount rates using nested if statements.

function calculateDiscount(amount) {

let discount = 0;

// Nested if statements to determine the discount percentage

if (amount > 0) {

if (amount >= 100 && amount < 200) {

discount = 10; // 10% discount for purchases between $100 and $199

} else if (amount >= 200 && amount < 500) {

discount = 15; // 15% discount for purchases between $200 and $499

} else if (amount >= 500) {

discount = 20; // 20% discount for purchases of $500 or more

} else {

discount = 5; // 5% discount for purchases below $100

}

} else {

console.log("Invalid purchase amount. Amount must be greater than 0.");

return;

}

// Calculating the final price after applying the discount

const discount Amount = (discount / 100) \* amount;

const final Amount = amount – discount Amount;

console.log(`Original Amount: $${amount.to Fixed(2)}`);

console.log(`Discount: ${discount}%`);

console.log(`Discount Amount: $${discountAmount.to Fixed(2)}`);

console.log(`Final Amount after Discount: $${finalAmount.to Fixed(2)}`);

}

// Example usage

Calculate Discount(150);

o/p

700

The discount is 20%.

1500

The discount is 15%.

50

The discount is 0%.

2. Write a program that estimates the cost of renting a car based on the type of car,

rental duration, and additional services using nested if statements.

function estimateCarRentalCost(carType, rentalDays, addGPS, addChildSeat, addInsurance) {

let dailyRate = 0;

// Determine the daily rate based on the car type

if (rentalDays > 0) {

if (carType === "Economy") {

dailyRate = 30; // Daily rate for Economy car

} else if (carType === "Compact") {

dailyRate = 40; // Daily rate for Compact car

} else if (carType === "SUV") {

dailyRate = 60; // Daily rate for SUV

} else {

console.log("Invalid car type. Please choose 'Economy', 'Compact', or 'SUV'.");

return;

}

} else {

console.log("Invalid rental duration. Duration must be greater than 0.");

return;

}

// Calculate the base cost for the rental

let baseCost = dailyRate \* rentalDays;

// Calculate the cost of additional services using nested if statements

let gpsCost = 0;

let childSeatCost = 0;

let insuranceCost = 0;

if (addGPS) {

gpsCost = 5 \* rentalDays; // $5 per day for GPS

}

if (addChildSeat) {

childSeatCost = 3 \* rentalDays; // $3 per day for Child Seat

}

if (addInsurance) {

insuranceCost = 10 \* rentalDays; // $10 per day for Insurance

}

// Calculate the total cost

let total Cost = base Cost + gps Cost + child Seat Cost + insurance Cost;

// Output the cost breakdown and total cost

console.log(`Car Type: ${car Type}`);

console.log(`Rental Days: ${rental Days}`);

console.log(`Base Cost: $${base Cost.to Fixed(2)}`);

if (add GPS) console.log(`GPS Cost: $${gpsCost.to Fixed(2)}`);

if (add Child Seat) console.log(`Child Seat Cost: $${child Seat Cost.to Fixed(2)}`);

if (add Insurance) console.log(`Insurance Cost: $${insuranceCost.to Fixed(2)}`);

console.log(`Total Cost: $${total Cost.to Fixed(2)}`);

}

// Example usage

Estimate Car Rental Cost("SUV", 5, true, false, true);

o/p

The total cost for renting the car is $170.

The total cost for renting the car is $60.

3. Build a program that calculates the bus fare for a passenger based on their age

and travel distance using nested if statements.

function calculate Bus Fare(age, distance) {

let fare Per Km = 0;

// Determine the fare per km based on age

if (age > 0) {

if (age < 5) {

fare Per Km = 0; // Free for children under 5 years

} else if (age >= 5 && age <= 12) {

Fare Per Km = 0.5; // $0.5 per km for children between 5 and 12 years

} else if (age >= 13 && age <= 60) {

Fare Per Km = 1; // $1 per km for adults between 13 and 60 years

} else if (age > 60) {

Fare Per Km = 0.7; // $0.7 per km for senior citizens above 60 years

} else {

console.log("Invalid age. Age must be a positive number.");

return;

}

} else {

console.log("Invalid age. Age must be greater than 0.");

return;

}

// Calculate the total fare based on distance

if (distance > 0) {

let total Fare = fare Per Km \* distance;

console.log(`Age: ${age}`);

console.log(`Distance: ${distance} km`);

console.log(`Fare per km: $${fare Per Km.to Fixed(2)}`);

console.log(`Total Bus Fare: $${total Fare.to Fixed(2)}`);

} else {

console.log("Invalid distance. Distance must be greater than 0.");

}

}

// Example usage

Calculate Bus Fare(25, 10);

o/p

The bus fare is $2.5.

The bus fare is $10.

4. Create a script that checks if a passenger can pass through airport security

based on the items in their luggage using nested if statements.

function check Security (items) {

let canPass = true; // Assume passenger can pass initially

// Nested if statements to check for prohibited items

if (items.length > 0) {

if (items.includes("liquids") || items.includes("flammable")) {

canPass = false; // Liquids and flammable items are prohibited

console.log("Prohibited item detected: Liquids or flammable items are not allowed.");

} else if (items.includes("sharp objects")) {

canPass = false; // Sharp objects are prohibited

console.log("Prohibited item detected: Sharp objects are not allowed.");

} else if (items.includes("explosives")) {

canPass = false; // Explosives are prohibited

console.log("Prohibited item detected: Explosives are not allowed.");

} else {

console.log("No prohibited items detected.");

}

} else {

console.log("No items in luggage.");

return;

}

// Check if the passenger can pass through security

if (canPass) {

console.log("The passenger is allowed to pass through security.");

} else {

console.log("The passenger is not allowed to pass through security due to prohibited items.");

}

}

// Example usage

Check Security(["clothes", "liquids", "shoes"]);

o/p

You can pass through airport security.

You cannot pass through airport security due to liquids.

5. Write a program that recommends a mobile phone based on the user's

preferences for camera, battery life, and budget using nested if statements.

function recommendPhone(preferredCamera, preferredBatteryLife, budget) {

let recommendedPhone = "";

// Nested if statements to recommend a phone based on preferences

if (budget > 0) {

if (preferredCamera === "high") {

if (preferredBatteryLife === "long") {

if (budget >= 1000) {

recommendedPhone = "iPhone 14 Pro Max"; // High camera, long battery life, high budget

} else if (budget >= 700) {

recommendedPhone = "Samsung Galaxy S23"; // High camera, long battery life, mid budget

} else {

recommendedPhone = "Google Pixel 7a"; // High camera, long battery life, low budget

}

} else if (preferredBatteryLife === "medium") {

if (budget >= 800) {

recommendedPhone = "OnePlus 11"; // High camera, medium battery life, high budget

} else if (budget >= 500) {

recommendedPhone = "Xiaomi 12 Pro"; // High camera, medium battery life, mid budget

} else {

recommendedPhone = "Realme 9 Pro+"; // High camera, medium battery life, low budget

}

} else {

console.log("Invalid battery life preference. Choose 'long' or 'medium'.");

return;

}

} else if (preferredCamera === "medium") {

if (preferredBatteryLife === "long") {

if (budget >= 800) {

recommendedPhone = "Samsung Galaxy A54"; // Medium camera, long battery life, high budget

} else if (budget >= 500) {

recommendedPhone = "Motorola Moto G Power"; // Medium camera, long battery life, mid budget

} else {

recommendedPhone = "Redmi Note 12"; // Medium camera, long battery life, low budget

}

} else if (preferredBatteryLife === "medium") {

if (budget >= 600) {

recommendedPhone = "Oppo Reno 8"; // Medium camera, medium battery life, high budget

} else if (budget >= 400) {

recommendedPhone = "Samsung Galaxy M33"; // Medium camera, medium battery life, mid budget

} else {

recommendedPhone = "Poco M4 Pro"; // Medium camera, medium battery life, low budget

}

} else {

console.log("Invalid battery life preference. Choose 'long' or 'medium'.");

return;

}

} else {

console.log("Invalid camera preference. Choose 'high' or 'medium'.");

return;

}

} else {

console.log("Invalid budget. Budget must be greater than 0.");

return;

}

// Output the recommended phone

console.log(`Based on your preferences, we recommend the ${recommendedPhone}.`);

}

// Example usage

Recommend Phone("high", "long", 800);

o/p

We recommend the iPhone 14 Pro.

We recommend the Moto G Power.

6. Create a script that helps the user select a gift based on the occasion and

recipient's age using nested if statements

function selectGift(occasion, recipientAge) {

let giftRecommendation = "";

// Nested if statements to recommend a gift based on the occasion and recipient's age

if (occasion === "Birthday") {

if (recipientAge < 13) {

giftRecommendation = "Toy Set"; // Gift recommendation for children under 13

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

giftRecommendation = "Gaming Headset"; // Gift recommendation for teenagers

} else if (recipientAge >= 20 && recipientAge <= 35) {

giftRecommendation = "Smartwatch"; // Gift recommendation for young adults

} else if (recipientAge >= 36 && recipientAge <= 60) {

giftRecommendation = "Personalized Leather Wallet"; // Gift recommendation for middle-aged adults

} else if (recipientAge > 60) {

giftRecommendation = "Digital Photo Frame"; // Gift recommendation for seniors

} else {

console.log("Invalid age. Age must be a positive number.");

return;

}

} else if (occasion === "Anniversary") {

if (recipientAge < 30) {

giftRecommendation = "Customized Jewelry"; // Gift recommendation for young couples

} else if (recipientAge >= 30 && recipientAge <= 50) {

giftRecommendation = "Couple's Spa Package"; // Gift recommendation for middle-aged couples

} else if (recipientAge > 50) {

giftRecommendation = "Wine Gift Basket"; // Gift recommendation for older couples

} else {

console.log("Invalid age. Age must be a positive number.");

return;

}

} else if (occasion === "Graduation") {

if (recipientAge < 18) {

giftRecommendation = "Stationery and Book Set"; // Gift recommendation for younger graduates

} else if (recipientAge >= 18 && recipientAge <= 25) {

giftRecommendation = "Laptop Bag"; // Gift recommendation for college graduates

} else if (recipientAge > 25) {

giftRecommendation = "Professional Portfolio"; // Gift recommendation for older graduates

} else {

console.log("Invalid age. Age must be a positive number.");

return;

}

} else if (occasion === "Wedding") {

if (recipientAge < 30) {

giftRecommendation = "Home Appliance Gift Set"; // Gift recommendation for younger newlyweds

} else if (recipientAge >= 30 && recipientAge <= 50) {

giftRecommendation = "Luxury Bedding Set"; // Gift recommendation for middle-aged newlyweds

} else if (recipientAge > 50) {

giftRecommendation = "Customized Crystal Decor"; // Gift recommendation for older newlyweds

} else {

console.log("Invalid age. Age must be a positive number.");

return;

}

} else {

console.log("Invalid occasion. Please choose 'Birthday', 'Anniversary', 'Graduation', or 'Wedding'.");

return;

}

// Output the recommended gift

console.log(`Based on the occasion and recipient's age, we recommend: ${giftRecommendation}.`);

}

// Example usage

Select Gift("Birthday", 25);

o/p

We recommend toys.

We recommend home appliances.

7. Build a program that calculates the price of a movie ticket based on the age of

the customer and the time of the movie using nested if statements.

function calculateMovieTicketPrice(age, movieTime) {

let ticketPrice = 0;

// Nested if statements to determine the ticket price based on age and movie time

if (age > 0) {

if (age < 13) { // Children under 13

if (movieTime >= 6 && movieTime < 18) {

ticketPrice = 5; // $5 for daytime shows for children

} else if (movieTime >= 18 && movieTime <= 24) {

ticketPrice = 7; // $7 for evening shows for children

} else {

console.log("Invalid movie time. Time must be between 6 and 24.");

return;

}

} else if (age >= 13 && age <= 64) { // Adults between 13 and 64

if (movieTime >= 6 && movieTime < 18) {

ticketPrice = 10; // $10 for daytime shows for adults

} else if (movieTime >= 18 && movieTime <= 24) {

ticketPrice = 15; // $15 for evening shows for adults

} else {

console.log("Invalid movie time. Time must be between 6 and 24.");

return;

}

} else if (age > 64) { // Seniors over 64

if (movieTime >= 6 && movieTime < 18) {

ticketPrice = 6; // $6 for daytime shows for seniors

} else if (movie Time >= 18 && movie Time <= 24) {

Ticket Price = 8; // $8 for evening shows for seniors

} else {

console.log("Invalid movie time. Time must be between 6 and 24.");

return;

}

} else {

console.log("Invalid age. Age must be a positive number.");

return;

}

} else {

console.log("Invalid age. Age must be greater than 0.");

return;

}

// Output the ticket price

console.log(`For a customer aged ${age} watching a movie at ${movie Time}:00, the ticket price is $${ticketPrice.to Fixed(2)}.`);

}

// Example usage

Calculate Movie Ticket Price(30, 20);

o/p

The price of the movie ticket is $5.

The price of the movie ticket is $12.

8. Create a script that evaluates a job applicant based on their education,

experience, and interview performance using nested if statements.

function evaluateApplicant(education, experience, interviewPerformance) {

let evaluationResult = "";

// Nested if statements to evaluate the applicant based on education, experience, and interview performance

if (education === "PhD") {

if (experience >= 5) {

if (interviewPerformance === "excellent") {

evaluationResult = "Highly Recommended"; // PhD, 5+ years experience, excellent interview

} else if (interviewPerformance === "good") {

evaluationResult = "Recommended"; // PhD, 5+ years experience, good interview

} else if (interviewPerformance === "average") {

evaluationResult = "Considered"; // PhD, 5+ years experience, average interview

} else {

console.log("Invalid interview performance rating. Choose 'excellent', 'good', or 'average'.");

return;

}

} else {

if (interviewPerformance === "excellent" || interviewPerformance === "good") {

evaluationResult = "Recommended"; // PhD, less than 5 years experience, good/excellent interview

} else {

evaluationResult = "Considered"; // PhD, less than 5 years experience, average interview

}

}

} else if (education === "Master's") {

if (experience >= 3) {

if (interviewPerformance === "excellent") {

evaluationResult = "Recommended"; // Master's, 3+ years experience, excellent interview

} else if (interviewPerformance === "good") {

evaluationResult = "Considered"; // Master's, 3+ years experience, good interview

} else {

evaluationResult = "Not Recommended"; // Master's, 3+ years experience, average interview

}

} else {

if (interviewPerformance === "excellent") {

evaluationResult = "Considered"; // Master's, less than 3 years experience, excellent interview

} else {

evaluationResult = "Not Recommended"; // Master's, less than 3 years experience, good/average interview

}

}

} else if (education === "Bachelor's") {

if (experience >= 2) {

if (interviewPerformance === "excellent") {

evaluation Result = "Considered"; // Bachelor's, 2+ years experience, excellent interview

} else {

Evaluation Result = "Not Recommended"; // Bachelor's, 2+ years experience, good/average interview

}

} else {

Evaluation Result = "Not Recommended"; // Bachelor's, less than 2 years experience

}

} else {

console.log("Invalid education level. Choose 'PhD', 'Master's', or 'Bachelor's'.");

return;

}

// Output the evaluation result

console.log(`The applicant's evaluation result is: ${evaluation Result}.`);

}

// Example usage

Evaluate Applicant("Master's", 4, "good");

o/p

The applicant is hired.

The applicant does not qualify.

9. Build a program that advises the user on what to eat for different meals based on

the time of day using nested if statements.

function mealSuggestion(timeOfDay) {

let mealRecommendation = "";

// Nested if statements to suggest a meal based on the time of day

if (timeOfDay >= 5 && timeOfDay < 11) { // Morning (5:00 to 10:59)

if (timeOfDay >= 5 && timeOfDay < 7) {

mealRecommendation = "Smoothie or Yogurt with Granola"; // Early morning

} else if (timeOfDay >= 7 && timeOfDay < 9) {

mealRecommendation = "Pancakes with Fruit or Eggs and Toast"; // Typical breakfast time

} else {

mealRecommendation = "Oatmeal or Avocado Toast"; // Late morning

}

} else if (timeOfDay >= 11 && timeOfDay < 17) { // Afternoon (11:00 to 16:59)

if (timeOfDay >= 11 && timeOfDay < 13) {

mealRecommendation = "Salad with Grilled Chicken or a Turkey Sandwich"; // Early lunch

} else if (timeOfDay >= 13 && timeOfDay < 15) {

mealRecommendation = "Pasta with Marinara Sauce or Sushi"; // Standard lunch time

} else {

mealRecommendation = "Soup and Bread or a Light Wrap"; // Late lunch

}

} else if (timeOfDay >= 17 && timeOfDay < 22) { // Evening (17:00 to 21:59)

if (timeOfDay >= 17 && timeOfDay < 19) {

mealRecommendation = "Grilled Salmon with Vegetables or Chicken Stir-Fry"; // Early dinner

} else if (timeOfDay >= 19 && timeOfDay < 21) {

mealRecommendation = "Steak with Mashed Potatoes or Veggie Burger"; // Standard dinner time

} else {

mealRecommendation = "Quinoa Salad or Light Pasta"; // Late dinner

}

} else if ((timeOfDay >= 22 && timeOfDay <= 24) || (timeOfDay >= 0 && timeOfDay < 5)) { // Late night (22:00 to 4:59)

if (time Of Day >= 22 && time Of Day < 24) {

meal Recommendation = "Fruit Salad or a Small Bowl of Cereal"; // Late evening snack

} else {

Meal Recommendation = "Warm Milk or Herbal Tea with Crackers"; // Early morning snack

}

} else {

console.log("Invalid time. Time must be between 0 and 24.");

return;

}

// Output the meal recommendation

console.log(`Based on the time of day, you should consider eating: ${meal Recommendation}.`);

}

// Example usage

Meal Suggestion(14);

o/p

We recommend breakfast items like eggs and toast.

10. Implement a script that identifies the quadrant of a point (x, y) on a coordinate

plane using nested if statements

function identify Quadrant(x, y) {

let quadrant = "";

// Nested if statements to determine the quadrant based on the coordinates

if (x > 0) {

if (y > 0) {

quadrant = "Quadrant I"; // x > 0 and y > 0

} else if (y < 0) {

quadrant = "Quadrant IV"; // x > 0 and y < 0

} else {

quadrant = "On the positive x-axis"; // x > 0 and y == 0

}

} else if (x < 0) {

if (y > 0) {

quadrant = "Quadrant II"; // x < 0 and y > 0

} else if (y < 0) {

quadrant = "Quadrant III"; // x < 0 and y < 0

} else {

quadrant = "On the negative x-axis"; // x < 0 and y == 0

}

} else {

if (y > 0) {

quadrant = "On the positive y-axis"; // x == 0 and y > 0

} else if (y < 0) {

quadrant = "On the negative y-axis"; // x == 0 and y < 0

} else {

quadrant = "At the origin"; // x == 0 and y == 0

}

}

// Output the quadrant or axis position

console.log(`The point (${x}, ${y}) is in: ${quadrant}.`);

}

// Example usage

Identify Quadrant(3, -4);

o/p

input (3,4) Enter the x coordinate: 3

Enter the y coordinate: 4

The point is in Quadrant I.

Enter the x coordinate: -2

Enter the y coordinate: 5

The point is in Quadrant II.