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T11 03

ASSIGNMENT 5

Aim: To study conditional Statements, Loops, Functions, Inheritance, Iterators and Generators.

Code:

// 1. Conditional Statements (if-else, switch) function checkNumber(num) {

if (num > 0) {

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

} else if (num < 0) {

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

} else {

console.log(`${num} is zero.`);

}

}

// Using switch statement function getDayName(dayNumber) {

switch (dayNumber) { case 1: return 'Monday';

case 2:

return 'Tuesday'; case 3:

return 'Wednesday'; case 4:

return 'Thursday'; case 5:

return 'Friday'; case 6:

return 'Saturday'; case 7:

return 'Sunday'; default:

return 'Invalid day number';

}

}

// 2. Loops (for, while) function printNumbersWithForLoop(n) {

console.log('Using for loop:'); for (let i

= 1; i <= n; i++) { console.log(i);

}

}

function printNumbersWithWhileLoop(n) { console.log('Using while loop:');

let i = 1; while (i <= n) {

console.log(i); i++;

}

}

// 3. Functions (regular and arrow functions) function add(a, b) { return a + b;

}

const multiply = (a, b) => a \* b;

// 4. Inheritance (using ES6 classes) class Animal { constructor(name)

{ this.name = name;

}

speak() {

console.log(`${this.name} makes a sound.`);

}

}

class Dog extends Animal { constructor(name, breed) {

super(name); // calling the parent class constructor this.breed = breed;

}

speak() {

console.log(`${this.name} barks. It's a ${this.breed}.`);

}

}

// 5. Iterators (custom iterator) const iterableObject = {

values: [1, 2, 3, 4, 5], [Symbol.iterator]() { let index = 0; return { next: () => {

if (index < this.values.length) {

return { value: this.values[index++], done: false };

} else {

return { done: true };

}

}

};

}

};

// 6. Generators (using `function\*`) function\* numberGenerator() {

let i = 1; while (i <= 5) { yield i++;

}

}

// Running the examples console.log("=== Conditional Statements ===");

checkNumber(5); // 5 is positive. checkNumber(-3); // -3 is negative. checkNumber(0); // 0 is zero.

console.log(getDayName(3)); // Wednesday

console.log("\n=== Loops ==="); printNumbersWithForLoop(5); // 1 2 3 4 5

printNumbersWithWhileLoop(5); // 1 2 3 4 5

console.log("\n=== Functions ==="); console.log(`5 + 3 =

${add(5, 3)}`); // 5 + 3 = 8 console.log(`5 \* 3 =

${multiply(5, 3)}`); // 5 \* 3 = 15

console.log("\n=== Inheritance ==="); const animal = new Animal("Generic Animal"); animal.speak(); // Generic Animal makes a sound.

const dog = new Dog("Max", "Golden Retriever"); dog.speak(); // Max barks. It's a Golden Retriever.

console.log("\n=== Iterators ==="); for (let value of iterableObject) {

console.log(value); // 1 2 3 4 5

}

console.log("\n=== Generators ==="); const gen = numberGenerator(); for (let value of gen) {

console.log(value); // 1 2 3 4 5

}

**Output:**



