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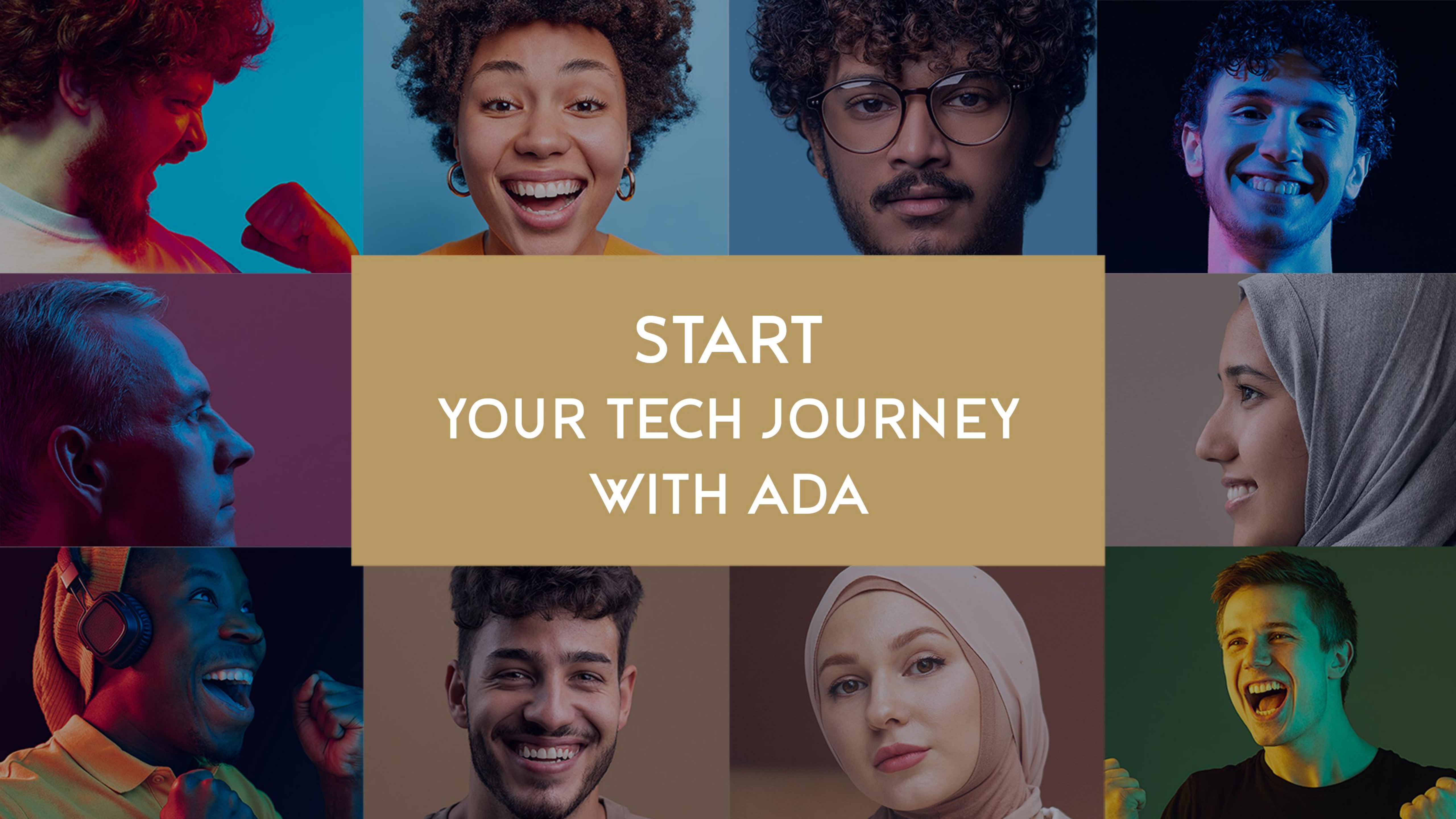

START YOUR TECH JOURNEY WITH ADA

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Objective:

By completing this task, you will:

- Master array operations: push, pop, shift, unshift, slice, splice for data manipulation
- Apply iteration methods: forEach, map, filter, reduce to process product collections
- Implement ES6 template literals for dynamic string formatting
- Use destructuring to extract data from arrays and objects efficiently
- Apply spread and rest operators for flexible function parameters and data combining
- Create a complete product management system using modern JavaScript techniques

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Step 1 – Create Product Data and Basic Array Operations

- Initialize an empty products array and use push() to add at least 5 products
- Each product should have: id, name, price, category, inStock, quantity
- Use unshift() to add urgent products to the beginning
- Apply pop() and shift() to remove products from both ends
- Use slice() to create product pages (pagination)
- Implement splice() to insert new products at specific positions

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Step 2 – Process Products with Iteration Methods

- Use forEach() to display all products with formatted output
- Apply map() to create price lists with tax calculations and currency formatting
- Implement filter() to find products by category, price range, and stock status
- Use reduce() to calculate total inventory value, average price, and category counts
- Chain multiple methods together for complex data processing

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Step 3 – Implement ES6 Features for Modern Syntax

- Use template literals to create product description cards with multiline formatting
- Apply object destructuring in function parameters and variable assignments
- Implement array destructuring for extracting product data
- Use spread operator to merge product arrays and clone objects
- Create functions with rest parameters to handle multiple product operations

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Step 4 – Build Advanced Features with Combined Concepts

- Create a search function using filter() and destructuring
- Build a shopping cart system with add/remove operations
- Implement discount calculations using map() and template literals
- Generate sales reports using reduce() and formatted output
- Add inventory management with stock level warnings and restocking alerts

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Requirements

Tools:

- Text editor (VS Code recommended)
- Node.js installed for running JavaScript
- Web browser with developer console (alternative)

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Reminder

- Remember: push/pop work on array end, shift/unshift work on array beginning
- Use map() for transforming data, filter() for selecting data, reduce() for calculating
- Template literals use backticks and ${expression} for dynamic content
- Destructuring syntax: {name, price} = product and [first, second] = array
- Spread operator (...) expands arrays/objects, rest operator (...) collects parameters
- Chain array methods for powerful data processing: array.filter().map().reduce()

THANK YOU

ADAEGY