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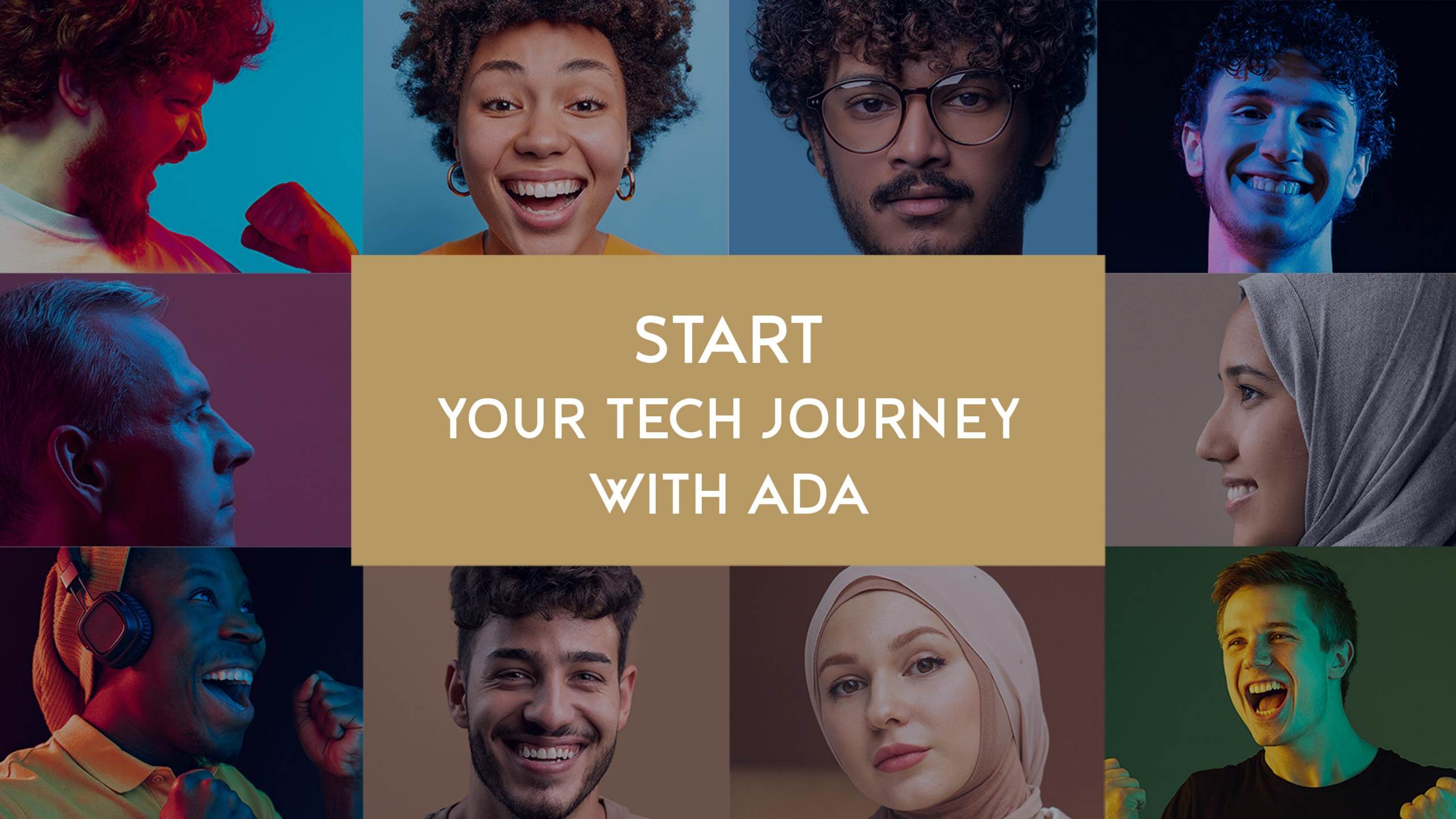
START
YOUR TECH JOURNEY
WITH ADA

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Objective:

By completing this task, you will:

- Create and use function declarations, expressions, and arrow functions effectively
- Implement functions with parameters, default values, and return statements
- Demonstrate understanding of global, function, and block scope concepts
- Apply hoisting principles with variables and functions
- Build a complete user management system using proper function organization

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Step 1 – Create User Functions with Different Types

- Write a function declaration for user validation (validateUser)
- Create a function expression for password hashing simulation (hashPassword)
- Build arrow functions for user filtering and formatting
- Use default parameters for user creation function
- Implement rest parameters for collecting user preferences

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Step 2 – Implement Scope Management

- Create global variables for application configuration (MAX_USERS, MIN_AGE)
- Use function scope for temporary calculations and processing
- Demonstrate block scope with let/const in conditional statements
- Show variable accessibility across different scope levels
- Create private variables using function closures

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Step 3 – Apply Hoisting Concepts

- Call a function before its declaration to show hoisting
- Demonstrate var hoisting behavior with undefined values
- Show temporal dead zone with let/const variables
- Create examples of function expression hoisting differences
- Document the behavior with comments explaining each case

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Step 4 – Build Complete User Management Features

- Create user registration function with validation
- Implement user authentication with multiple parameters
- Build user profile updater with return value confirmation
- Add user search functionality using arrow functions
- Create admin functions with role-based access using scope

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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

- Use function declarations for main features, expressions for conditional assignments
- Implement arrow functions for short, simple operations like filtering
- Always return meaningful values from functions when needed
- Use let/const instead of var to avoid scope confusion
- Test hoisting behavior by calling functions before declarations
- Add comments explaining scope and hoisting examples in your code

THANK YOU

ADAEGY