

Type Script Assignments

- 1- Create a new TypeScript project.
 - a. Initialize it with tsconfig.json using `npx tsc --init`.
 - b. Write a program that defines variables of types string, number, boolean, and array, and logs them to the console.
- 2- Create an array `mixedArray` that can contain numbers and strings.
 - a. Add elements to the array.
 - b. Write a function `printArrayElements` to log each element's type and value.
- 3- Define an enum `TrafficLight` with values Red, Yellow, and Green.
 - a. Write a function `getAction(light: TrafficLight): string` that returns:
 - "Stop" for Red.
 - "Get Ready" for Yellow.
 - "Go" for Green.
- 4- Create an enum `Role` with values Admin, User, and Guest.
 - a. Define a tuple `userInfo` to represent a user with id, name, and role.
 - b. Write a function `describeUser` that takes the tuple and prints the user's role.
- 5- Write a function `format` that:
 - a. Takes a single string argument and returns it in uppercase.
 - b. Takes a single number argument and returns it as a string with a \$ prefix.
 - c. Use type guards to differentiate between the inputs.
- 6- Declare a variable `input` of type `unknown` and assign it a value.
 - a. Write a function `processInput` that checks the type of input and:
 - b. Converts it to uppercase if it's a string.
 - c. Squares it if it's a number.