React (Frontend Functions)

• **fetchInventoryList():** Retrieves a list of all inventory items with their current quantities from the backend.

• **getProductDetails(productId):** Fetches the details of a single product, including its weight and related movements.

• **getRecipeRecommendations():** Pulls recipe recommendations based on the current inventory, possibly using the RecipeRecommendations table.

• **displayPredictedDemand():** Displays the predicted demand for products, aiding in restocking decisions.

• **recordItemMovement(itemMovementData):** Sends data to the backend to record the movement of items, which can be tied to weight sensor and RFID readings.

• **updateInventoryItem(inventoryUpdateData):** Sends updated weight information from sensors to adjust inventory levels.

• **fetchItemMovements():** Retrieves a log of item movements for audit and tracking purposes.

• **generateWasteReductionReport():** Aggregates data to generate reports on how the system is reducing waste.

• **submitNewRecipe(recipeData):** Allows the submission of new recipes, which involves interaction with the RecipeRecommendations table.

• **updatePredictedDemand(demandData):** Used to manually adjust predicted demand for products.

Node.js (Backend Functions)

• **addItemToInventory(req, res):** Adds a new item to the Inventory table.

• **updateInventory(req, res):** Updates inventory levels based on sensor data.

• **recordMovement(req, res):** Logs movements of items to the ItemMovements table.

• **getInventoryList(req, res):** Retrieves all inventory items and their quantities.

• **getProductById(req, res):** Fetches a single product's details from the Products table using the product ID.

• **fetchPredictedDemands(req, res):** Returns predicted demands for products.

• **getRecipeByAvailableItems(req, res):** Generates recipe recommendations based on available inventory items.

• **logItemMovement(req, res):** Captures and logs item movements as recorded by RFID technology.

• **generateReports(req, res):** Generates reports for waste reduction and inventory management efficiency.

• **createNewRecipe(req, res):** Allows the creation of new entries in the RecipeRecommendations table.

• **updateRecipe(req, res):** Updates an existing recipe in the RecipeRecommendations table.

• **deleteRecipe(req, res):** Removes a recipe from the RecipeRecommendations table.

• **addRecipeIngredient(req, res):** Inserts a new ingredient into the RecipeIngredients table for a given recipe.

- **updateRecipeIngredient(req, res):** Modifies an ingredient's details in the RecipeIngredients table.

- **removeRecipeIngredient(req, res):** Deletes an ingredient from the RecipeIngredients table.

- **adjustPredictedDemand(req, res):** Updates the PredictedDemand table based on new data from predictions or manual input.

- **linkProductToInventory(req, res):** Connects products to inventory items, possibly also involving the ItemMovements table to reflect the movements based on RFID/weight sensor data.