Test Cases for Reward Points Calculation by Customer Transactions

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**Purpose**

The purpose of these test cases is to ensure that the reward points calculation function behaves as expected under different scenarios and edge cases.

**Test Stack**

\*\***Frontend**: \*\* React JS

\*\***Testing**: \*\* Jest & React Testing Library

**Location**

src/\_\_tests\_\_/ calculateResults.js

**Test Cases**

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**Description**

Test the calculation of earned reward points for a single transaction with single customer.

**## calculateResults Function**

The `**calculateResults**` function processes an array of transaction data to compute reward points per transaction and aggregate total points and transaction amounts by customer.

**Input:**

Detail the parameters that the function accepts and their expected types.

**### Parameters**

- `**transactions**` (`Array`): An array of objects representing transaction data. Each object should have the following properties:

- `**custid**` (`number`): Customer ID.

- `**customerName**` (`string`): Customer name.

- `**amount**` (`number`): Transaction amount in dollars.

- `**transactionDate**` (`string`): Transaction date in `MM-DD-YYYY` format.

**### Return Value**

- `**Object**`: An object containing calculated results with the following properties:

- `**pointsPerTransaction**` (`Array`): An array of objects, each representing points earned per transaction.

- `**points**` (`number`): Points earned for the transaction.

- `**summaryByCustomer**` (`Array`): An array of objects, each summarizing total points and amounts per customer.

- `**customerName**` (`string`): Customer name.

- `**points**` (`number`): Total points earned by the customer.

- `**amount**` (`number`): Total amount spent by the customer.

**### Errors**

- Throws an `Error` with message `"Invalid transaction amount"` if any transaction object has a non-numeric or negative `amount` property.

**### Examples**

```

const testData = [

{ custid: 1, customerName: 'Ram', amount: 289, transactionDate: '05-01-2024' },

{ custid: 2, customerName: 'Rohan', amount: 200, transactionDate: '01-20-2024' }

];

const result = calculateResults(testData);

console.log(result.pointsPerTransaction);

// **Output**: [{ points: 428 }, { points: 250 }]

console.log(result.summaryByCustomer);

// **Output**: [{ customerName: 'Ram', points: 428, amount: 289 }, { customerName: 'Rohan', points: 250, amount: 200 }]

console.log(result.totalPointsByCustomer);

// **Output**: [

{

"customerName": "Ram",

"points": 762,

"amount": 879

},

{

"customerName": "Rohan",

"points": 698,

"amount": 709

},

{

"customerName": "naman jain",

"points": 90,

"amount": 120

}

]

**### Notes**

- The function assumes that transaction dates are provided in `MM-DD-YYYY` format and processes them accordingly.

- Ensure transaction amounts are valid numbers to prevent errors during calculation.

**## Conclusion**

The `calculateResults` function provides a straightforward way to compute reward points per transaction and aggregate total points and amounts by customer. By following the documented structure and handling valid transaction data, it ensures accurate computation and reporting of customer rewards.