Interview Task

Notes on Parent to Child and Child to Parent Data Sharing in React

Introduction

In React, components often need to share data with each other. This can happen in two main directions: from parent to child and from child to parent. Understanding how to manage this data flow is crucial for building dynamic and interactive applications.

Parent to Child Data Sharing

Parent to child data sharing involves passing data from a parent component to its child component using props. Props are a way to pass data and functions to child components, allowing them to receive and use information from their parent.

Example from the Code:

1. **Groceries Component (Parent):**
   - The parent component manages the state of the grocery item.
   - It passes the current grocery item and a function to update the state to the PackagedGoods child component via props.

```jsx
import { useState } from "react";
import PackagedGoods from "./PackagedGoods.js";

let Groceries = () => {
  let [groceries, setGroceries] = useState({
    id: 1,
    name: "Pantry staples (spices, pasta, sauces)",
    image: "https://images.unsplash.com/photo-1542990253-
a781e04c0082?q=80&w=1994&auto=format&fit=crop&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlFHx8fGVufDB8fHx8fA%3D%3D",
  });

  let addToCart = (item) => {
   setGroceries(item);
  };

  return (
    <div className="train-info">
      <div>This is Groceries Dash Board <b>Parent</b></div>
      <h2>{groceries.name}</h2>
      <img src={groceries.image} width="200px" height="200px" />
      <PackagedGoods
        name={groceries.name}
        image={groceries.image}
```

```
        addToCart={addToCart}
     />
   </div>
 );
};


export default Groceries;
```

Key Points:

- The Groceries component maintains the state of the current grocery item using the useState hook.
- The PackagedGoods component is included in the JSX of the Groceries component.
- Props (name, image, addToCart) are passed from Groceries to PackagedGoods.

Child to Parent Data Sharing

Child to parent data sharing involves passing data from a child component back up to its parent component. This is typically done by passing a function from the parent to the child, which the child can call to send data back to the parent.

Example from the Code:

2. **PackagedGoods Component (Child):**
   - The child component receives props from the parent component.
   - It calls the addToCart function (received as a prop) to update the parent's state with a new grocery item.

```
import React from "react";

let PackagedGoods = (props) => {
 let addingToCart = () => {
   props.addToCart({
     id: 2,
     name: "Legumes (beans, lentils, peanuts)",
     image: "https://images.unsplash.com/photo-1472141521881-
95d0e87e2e39?q=80&w=2072&auto=format&fit=crop&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D",
   });
 };

 return (
  <div className="goods">
    <div>This is PackagedGoods Dash Board <b>Child</b></div>
    <button onClick={addingToCart}>Cart</button>
```

```
    </div>
  );
};

export default PackagedGoods;
```

Key Points:

- The PackagedGoods component receives the addToCart function from the parent component as a prop.
- The addingToCart function in the PackagedGoods component calls the addToCart function with a new grocery item, updating the parent's state.