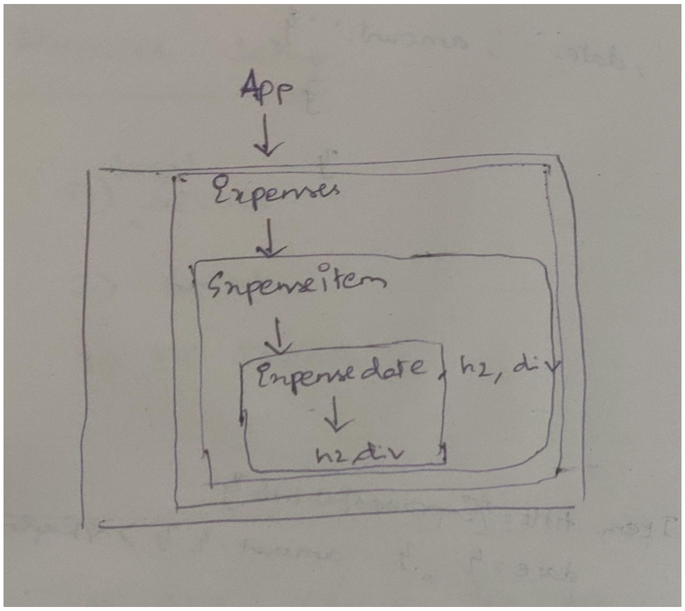
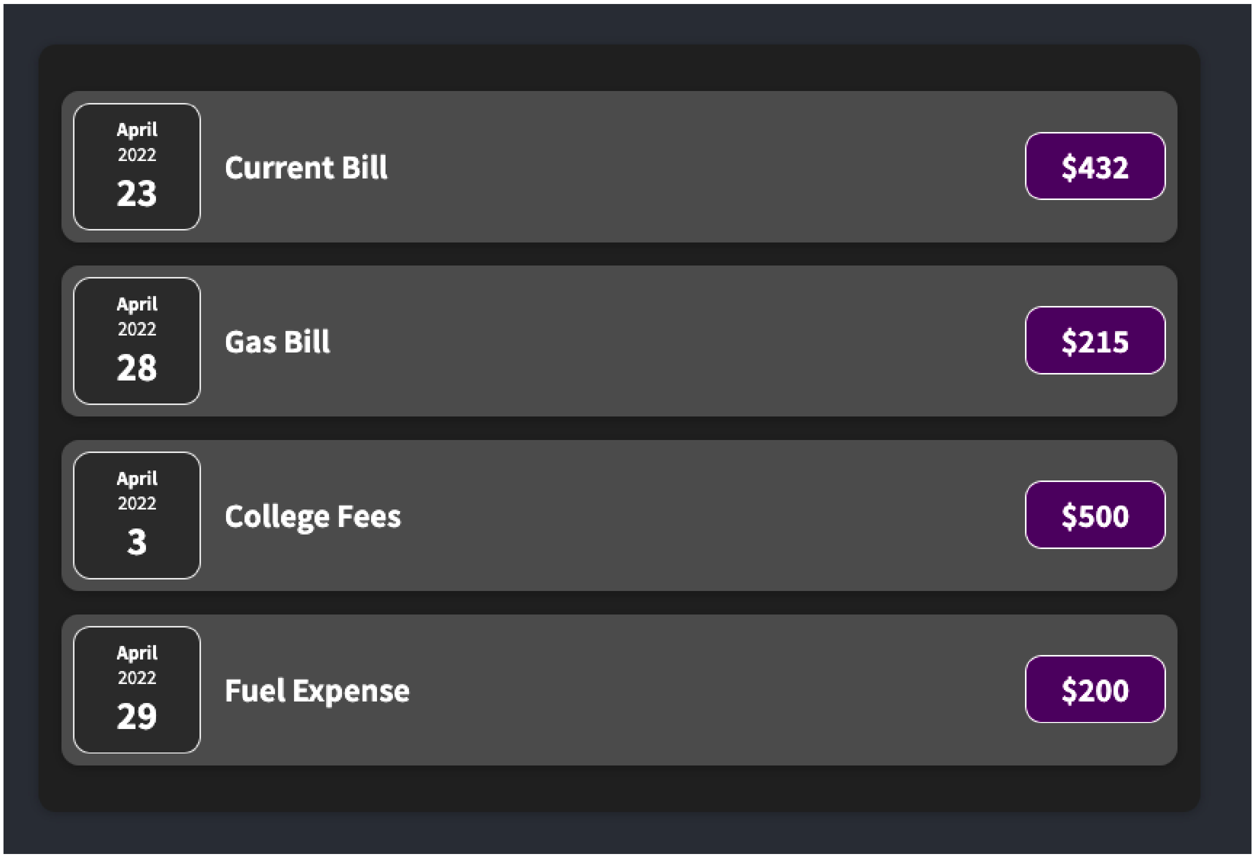
11. Wrapper components,composition,children props

- Composition:
    - 

    - This is also composition, here we are making up small small building blocks and nesting them inside it to create a larger component
- But there is another aspect of composition, until now we have seen components with specific usage, but we can use custom wrapper components like div,h2 so that we could enclose our own contents in it and we can reduce the css code because imagine a situation
    - Suppose our website have many card like elements with rounded borders, box shadows and if we create separate div for each card we need to style them separately, instead we could create a custom wrapper component and give the common styling to our own wrapper component

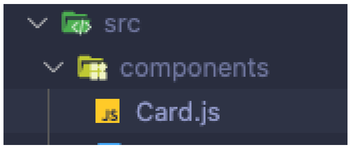
- 

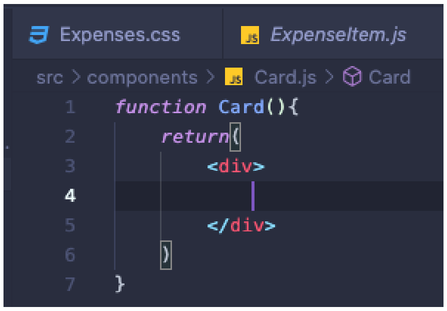
  April 2022 23 Current Bill $432

  April 2022 28 Gas Bill $215

  April 2022 3 College Fees $500

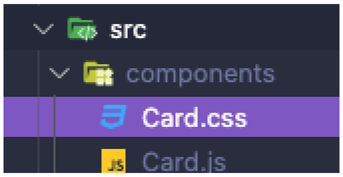
  April 2022 29 Fuel Expense $200

  - Here we have the common border radius and box-shadow for two different elements,the expenses container(the div containing 4 expense items) and the expense item container(contianing the date,title and amount)
  - For that two components instead of wrapping it inside two different divs and giving styles separately we could create our own custom wrapper component and giving the common styling to it.
- Let us create our own component
- Let us name it as cards
  - 

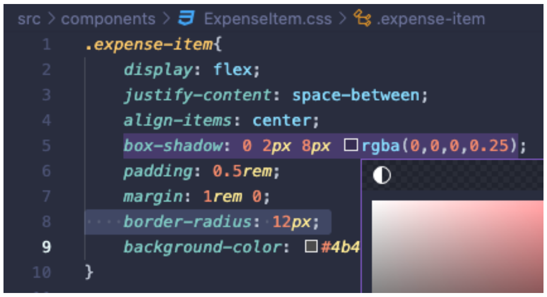
  - 

```
function Card(){
    return(
        <div>
            
        </div>
    )
}
```

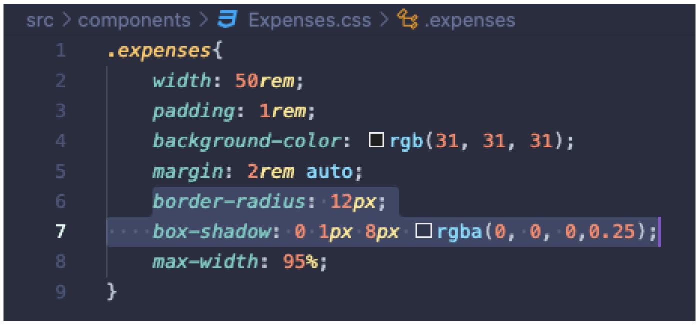
- Now let us create a css file for card



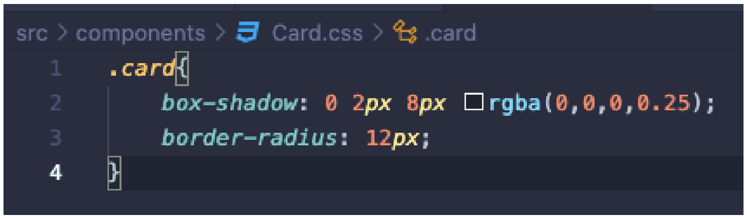
- Now let us cut the common styling from expenses and expense item and paste it in card.css



```css
.expense-item{
    display: flex;
    justify-content: space-between;
    align-items: center;
    box-shadow: 0 2px 8px rgba(0,0,0,0.25);
    padding: 0.5rem;
    margin: 1rem 0;
    border-radius: 12px;
    background-color: #4b4
}
```

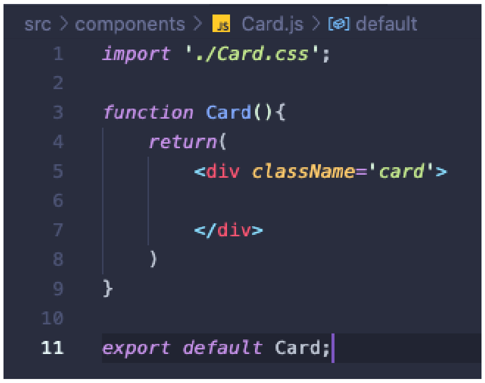


```css
.expenses{
    width: 50rem;
    padding: 1rem;
    background-color: rgb(31, 31, 31);
    margin: 2rem auto;
    border-radius: 12px;
    box-shadow: 0 1px 8px rgba(0, 0, 0,0.25);
    max-width: 95%;
}
```



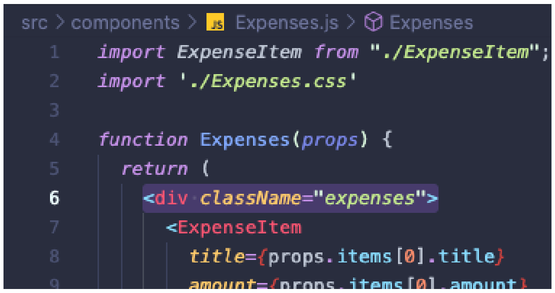
```css
.card{
    box-shadow: 0 2px 8px rgba(0,0,0,0.25);
    border-radius: 12px;
}
```

- Now let us add the card class to the card component



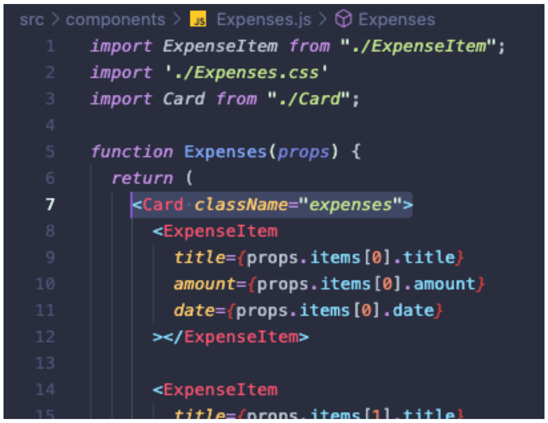
```js
import './Card.css';

function Card(){
    return(
        <div className='card'>

        </div>
    )
}

export default Card;
```

- Now let us replace the div with cards as the wrapper components for expenses and expense items



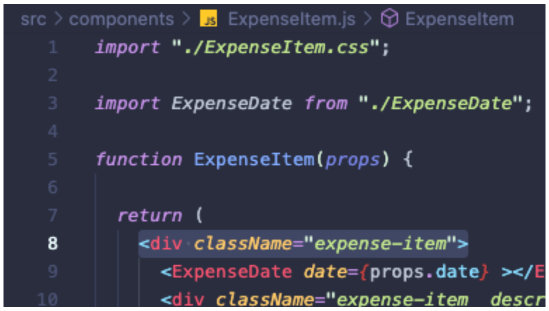
```
src > components > Expenses.js > Expenses
import ExpenseItem from "./ExpenseItem";
import './Expenses.css'

function Expenses(props) {
  return (
    <div className="expenses">
      <ExpenseItem
        title={props.items[0].title}
        amount={props.items[0].amount}
```

→



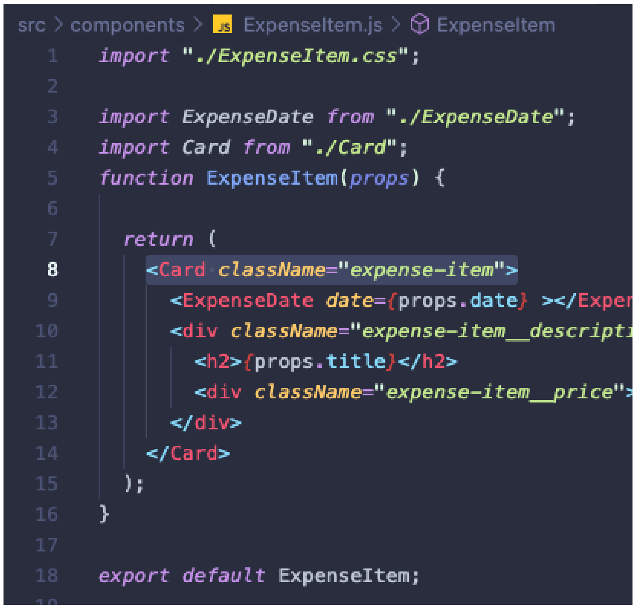
```
src > components > Expenses.js > Expenses
import ExpenseItem from "./ExpenseItem";
import './Expenses.css'
import Card from "./Card";

function Expenses(props) {
  return (
    <Card className="expenses">
      <ExpenseItem
        title={props.items[0].title}
        amount={props.items[0].amount}
        date={props.items[0].date}
      ></ExpenseItem>

      <ExpenseItem
        title={props.items[1].title}
```

  - Now we have replaced the div with Card which will give i the common card style(border radius and shadow) and we have also included the class expenses because it has the specific styling for this components which is not common for all cards so we have used it



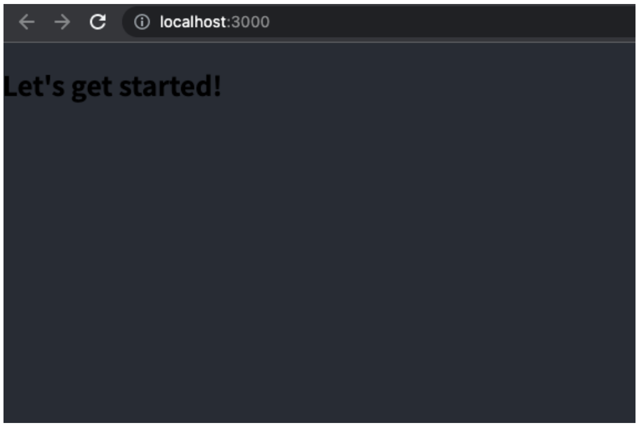
```
src > components > ExpenseItem.js > ExpenseItem
import "./ExpenseItem.css";

import ExpenseDate from "./ExpenseDate";

function ExpenseItem(props) {

  return (
    <div className="expense-item">
      <ExpenseDate date={props.date} ></E
      <div className="expense-item__descr
```

→

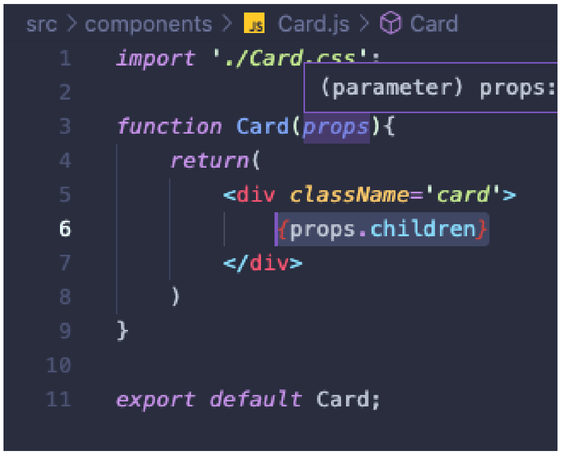


```
src > components > ExpenseItem.js > ExpenseItem
import "./ExpenseItem.css";

import ExpenseDate from "./ExpenseDate";
import Card from "./Card";
function ExpenseItem(props) {

  return (
    <Card className="expense-item">
      <ExpenseDate date={props.date} ></Exper
      <div className="expense-item__descripti
        <h2>{props.title}</h2>
        <div className="expense-item__price">
      </div>
    </Card>
  );
}

export default ExpenseItem;
```

  - Here also we have replaced card with div which gives the common styling for card and we have included a classname which give sthe specific styling for this component

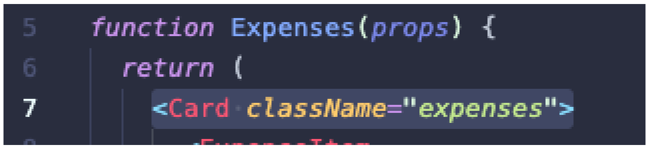
- But, our react doesn't show anything on our page
    - 

      localhost:3000

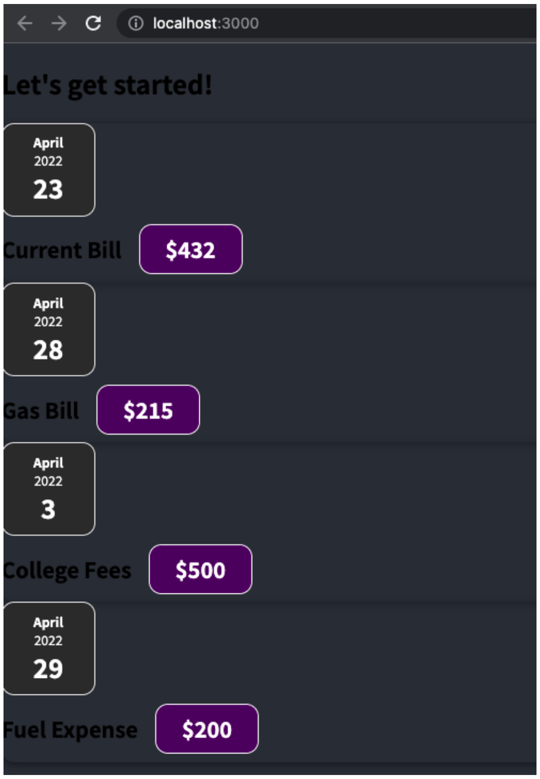
      Let's get started!
- This is because our custom component by default doesn’t allow contents to be wrapped inside it unlike other default html elements
    - So we have to make it allow
    - How can we allow the wrapped content to be allowed inside our custom component?
    - **It can also be done using props, eventhough we didn’t pass the props expilicitily, automatically it will be passed**
        - Now we have to tell our component to allow contents
        - 

          src > components > Card.js > Card

          (parameter) props:

          ```
          import './Card.css';

          function Card(props){
              return(
                  <div className='card'>
                      {props.children}
                  </div>
              )
          }

          export default Card;
          ```
            - Children is a reserved keyword, props.children is the content that is wrapped inside our component
            - But if notice we haven;t passed any attributes while calling the component
                - 

                  ```
                  function Expenses(props) {
                    return (
                      <Card className="expenses">
                  ```

- Now this is how it is displayed
    - 

      localhost:3000

      Let's get started!

      April
      2022
      23

      Current Bill $432

      April
      2022
      28

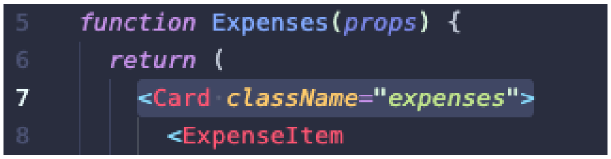
      Gas Bill $215

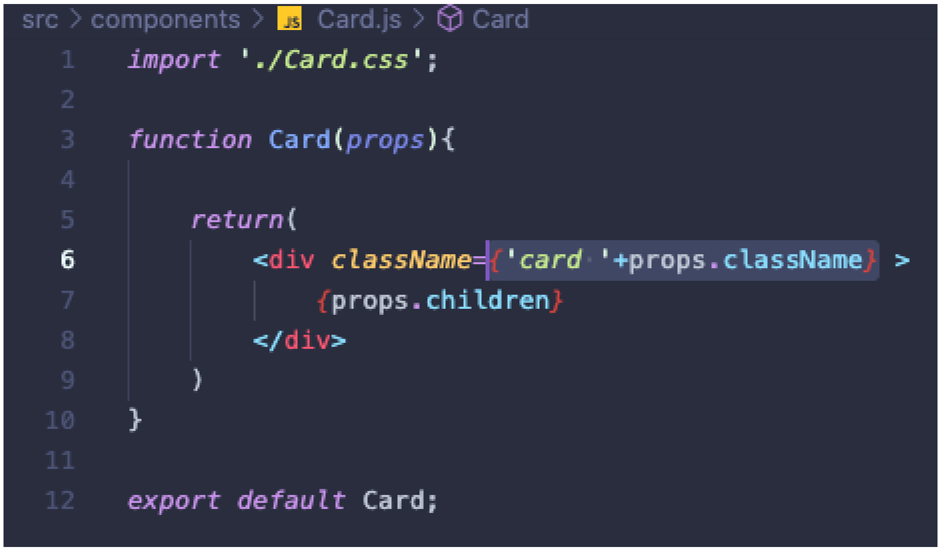
      April
      2022
      3

      College Fees $500

      April
      2022
      29

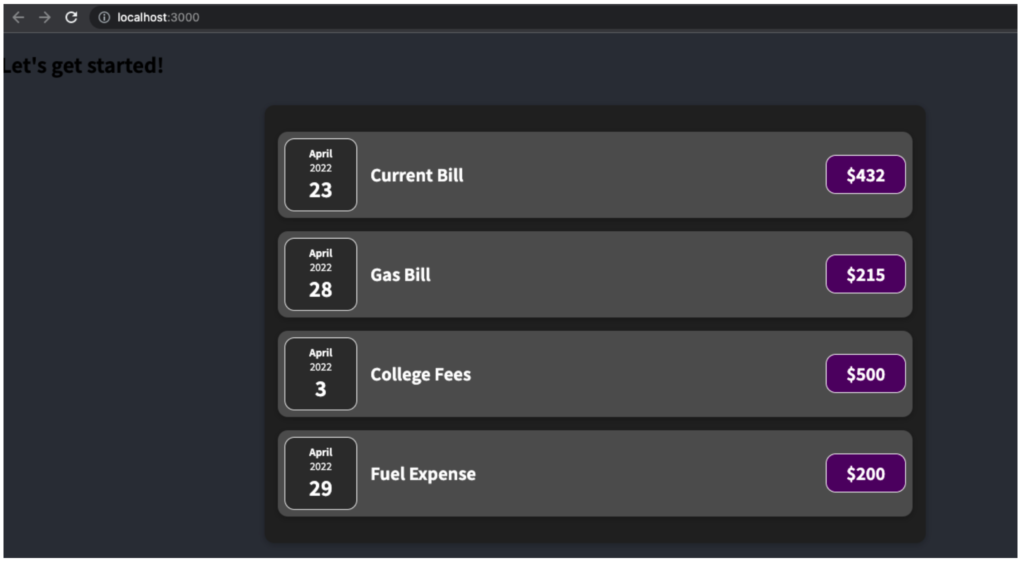
      Fuel Expense $200
    - If you notice the box shadow and border is styled other things specific to each components(expenses and expenseitem) is not styled

- But we have given the classname of specific styles also, but why?
  - 

    ```
    function Expenses(props) {
      return (
        <Card className="expenses">
          <ExpenseItem
    ```
  - Here we have given the specific style for this card, but why it is not reflecting in our page?
    - Because our custom component by default doesn’t allow classname unlike default html compoents
    - But we can make it allow
    - props.className will have the classname that we have used in our custom component
    - Now we have to add it in our component
    - 

      src > components > Card.js > Card

      ```
      1   import './Card.css';
      2
      3   function Card(props){
      4
      5       return(
      6           <div className={'card '+props.className} >
      7               {props.children}
      8           </div>
      9       )
      10  }
      11
      12  export default Card;
      ```
    - Here props.className has the classname which we have used while calling that component and it will have the card class and its styling by default because it is common for all the card components as we are adding it to the called class name in line 6
      - Note that there is a space between card and props.className
-



Let's get started!

April 2022 23	Current Bill	$432
April 2022 28	Gas Bill	$215
April 2022 3	College Fees	$500
April 2022 29	Fuel Expense	$200

- Now the cards has the commonstyling of card and the specific styling for expenses and expense item respectively