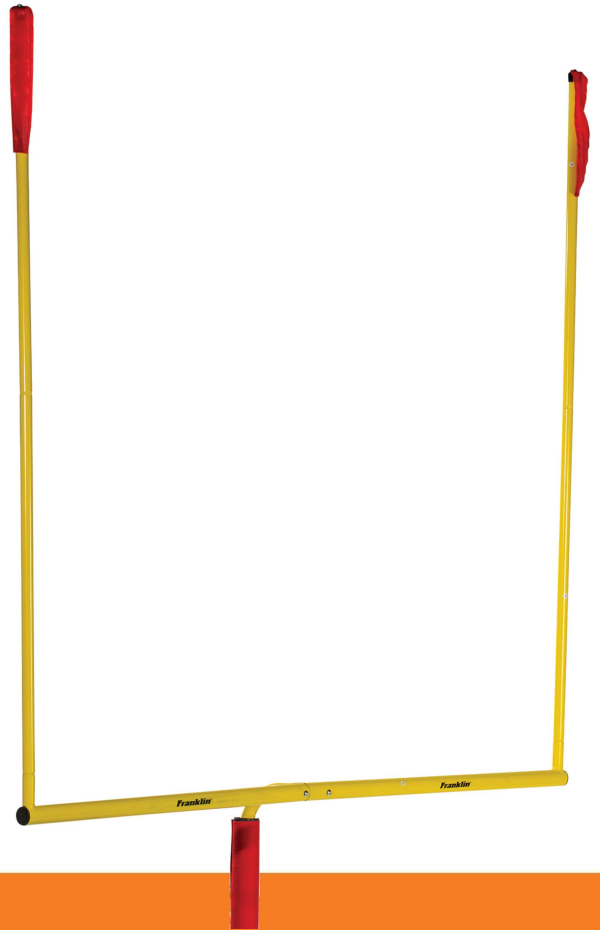
Potpourri

Develop Intelligence

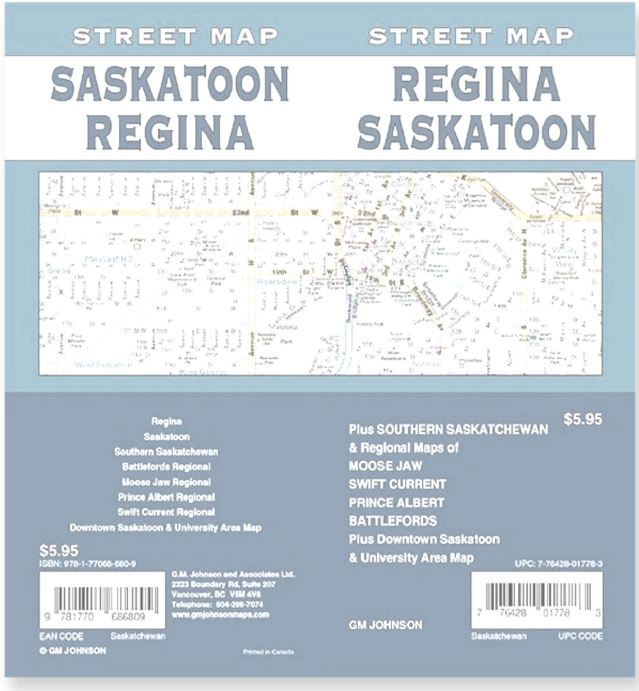
Goals

1. Explain what 'lifting state up' means
2. Describe how to use `createContext`



Roadmap

1. Context
2. Routing



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Context

Motivating Example

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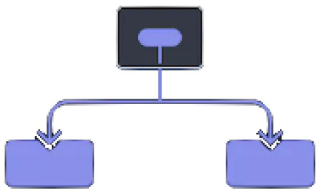
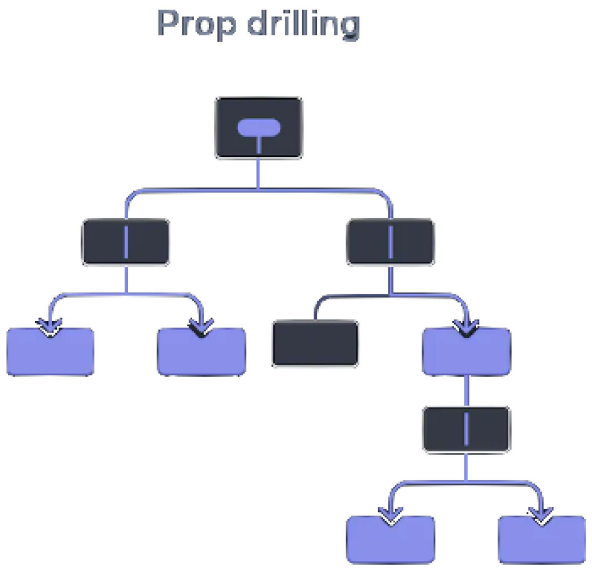
```
export const Page = () =>
    <Section>
      <Heading level={1}>Title</Heading>
      <Section>
        <Heading level={2}>Heading</Heading>
        <Heading level={2}>Heading</Heading>
        <Heading level={2}>Heading</Heading>
        <Section>
          <Heading level={3}>Sub-heading</Heading>
          <Heading level={3}>Sub-heading</Heading>
          <Section>
            <Heading level={4}>Sub-sub-heading</Heading>
            <Heading level={4}>Sub-sub-heading</Heading>
          </Section>
        </Section>
      </Section>
```

Lifting State Up

- Known as 'prop drilling'





Solution: Context

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Usually, you will pass information from a parent component to a child component via props. But passing props can become verbose and inconvenient if you have to pass them through many components in the middle, or if many components in your app need the same information. Context lets the parent component make some information available to any component in the tree below it—no matter how deep—without passing it explicitly through props.

Step 1: createContext


```
1 import { createContext } from 'react';
2
3 // Note: This is the default context.
4 export const LevelContext = createContext(1);
```

Step 2: Use the Context

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```tsx
export const Heading = ({ children }: PropsWithChildren) => {
  const level = useContext(LevelContext);
  switch (level) {
    case 1:
      return <h1>{children}</h1>;
    case 2:
      return <h2>{children}</h2>;
    // Etc....
```

Step 3: Inject the Context

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```tsx
interface SectionProps extends PropsWithChildren {
  level: number;
}

export const Section = ({ children, level }: SectionProps) => {
  return (
    <section className="section prose">
      <LevelContext.Provider value={level}>{children}</LevelContext.Provider>
    </section>
  );
};
```

Context Use Cases

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- Theming
- User information
- Routing
- Services (with reducers)

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Routing

Overview

- Common options:
  - Roll your own
  - Comes with your framework
  - React Router
- Often 'routing' includes more than just routing

Example: React Router

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- Common solution when you don't have a framework

```
const router = createBrowserRouter([
  {
    path: '',
    element: <App />,
    errorElement: <ErrorPage />,
    children: Object.values(routes),
  },
]);

ReactDOM.createRoot(document.getElementById('root')!).render(
  <React.StrictMode>
    <RouterProvider router={router} />
  </React.StrictMode>,
);
```

App.js

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```
import { Navbar } from './components/nav-bar/Navbar.tsx';
import { Outlet } from 'react-router-dom';
import { ThemeProvider } from '@components/theme/theme-provider.tsx';

export function App() {
  return (
    <ThemeProvider
      defaultTheme="light"
      storageKey="vite-ui-theme"
    >
      <Navbar />
      <Outlet />
    </ThemeProvider>
  );
}
```

Routes

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```tsx
export interface RouteInfo {
  path: string;
  element: ReactNode;
  title: string;
}

export const demoRoutes: { [key: string]: RouteInfo } = {
  Planets: {
    path: '/demo/planets',
    element: <PlanetsDemo />,
    title: 'Planets',
  },
  Headings: {
    path: '/demo/headings',
    element: <HeadingsDemo />,
    title: 'Headings',
```

Links

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```
interface Props extends PropsWithChildren {
  to: string;
}

export const NavbarMenuLink = ({ to, children, ...props }: Props) => (
  <Link
    className="block select-none space-y-1 rounded-md p-3 leading-none no-und
    to={to}
    {...props}
  >
    <NavigationMenuLink>{children}</NavigationMenuLink>
  </Link>
);
```

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Review

1. Explain what 'lifting state up' means
2. Describe how to use `createContext`