Mobile Development

React Native

#2 Fundamental

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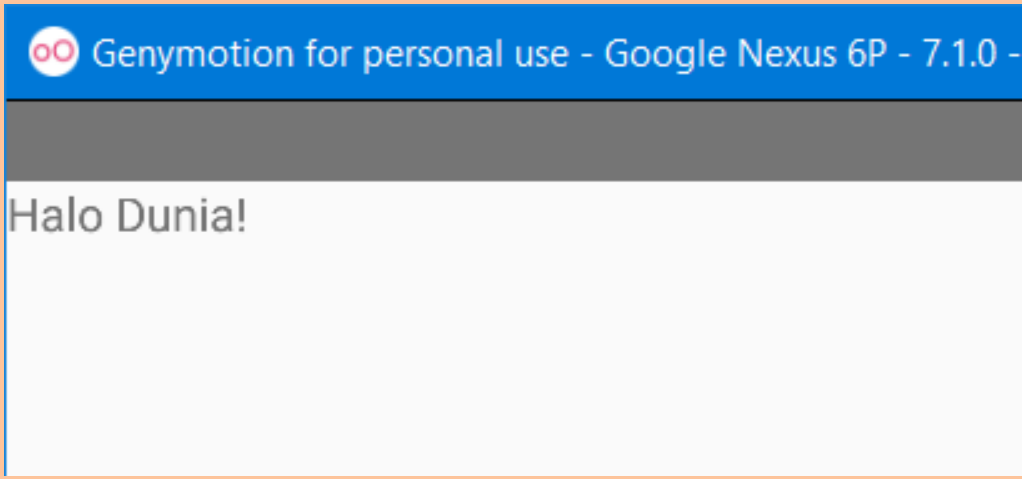
App.js

Hello World!

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class App extends Component {
  render() {
    return (
      <Text>
        Halo Dunia!
      </Text>
    );
  }
}

export default App;
```



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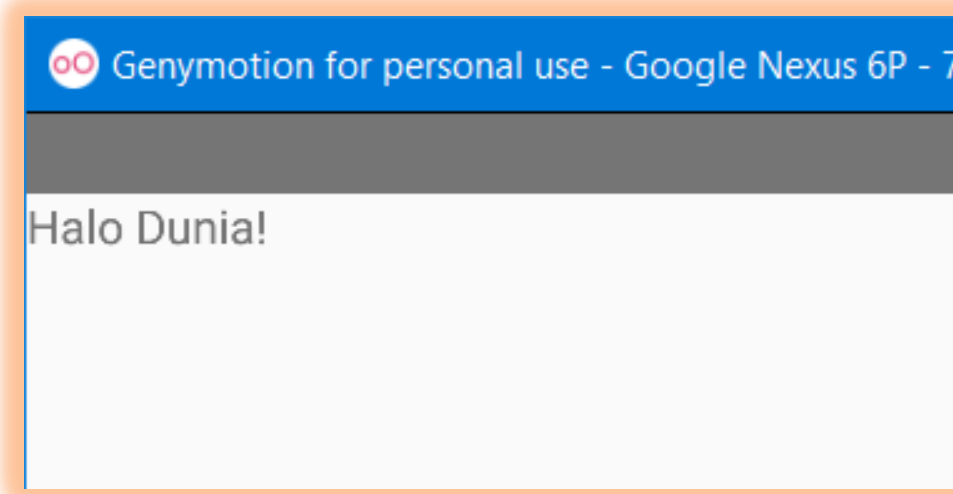
App.js

Hello World!
Insert var

```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

var kalimat = 'Halo Dunia!';
class App extends Component {
  render() {
    return (
      <View>
        <Text>
          { kalimat }
        </Text>
      </View>
    );
  }
}

export default App;
```



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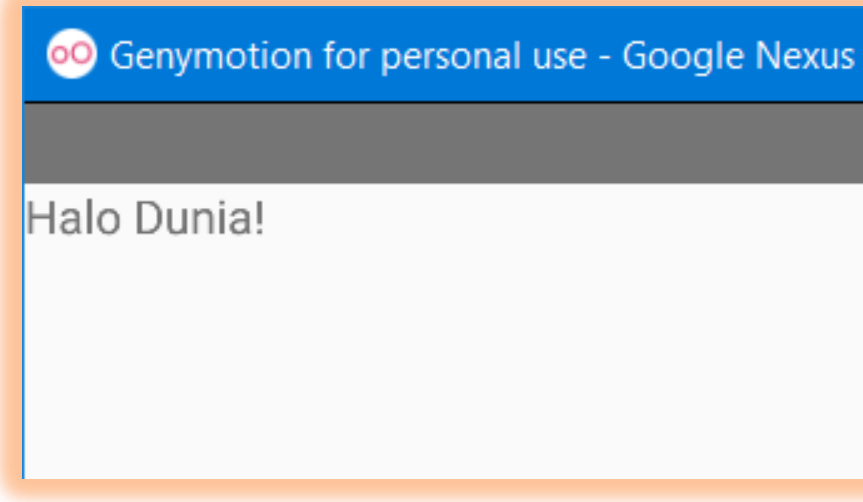
App.js

Hello World!
Constructor

```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

class App extends Component {
 constructor(){
  super();
  this.kata = 'Dunia';
 }
 render() {
   return (
       <View>
         <Text>
             { this.kata }
         </Text>
       </View>
    );
  }
}
export default App;
```



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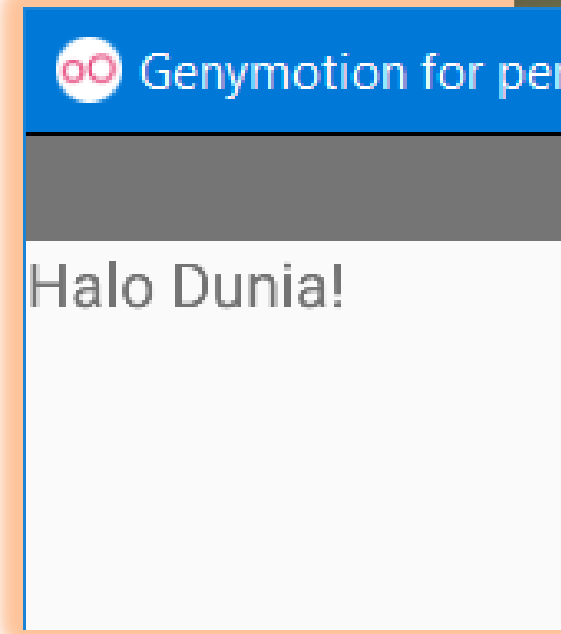
App.js

Hello World!
Insert func statement

```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

class App extends Component {
  kata(x){return x;}
  render() {
    return (
       <View>
        <Text>
         Halo {this.kata('Dunia')}
        </Text>
       </View>
    );
  }
}
export default App;
```



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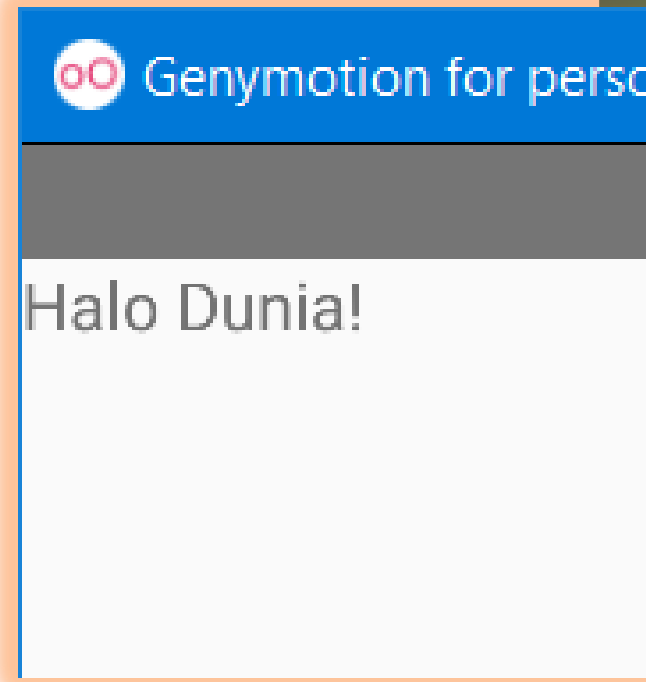
App.js

Hello World!
Insert func expression

```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

class App extends Component {
  render() {
   function kata(x){return x;}
    return (
       <View>
        <Text>
         Halo {kata('Dunia')}
        </Text>
       </View>
    );
  }
}
export default App;
```



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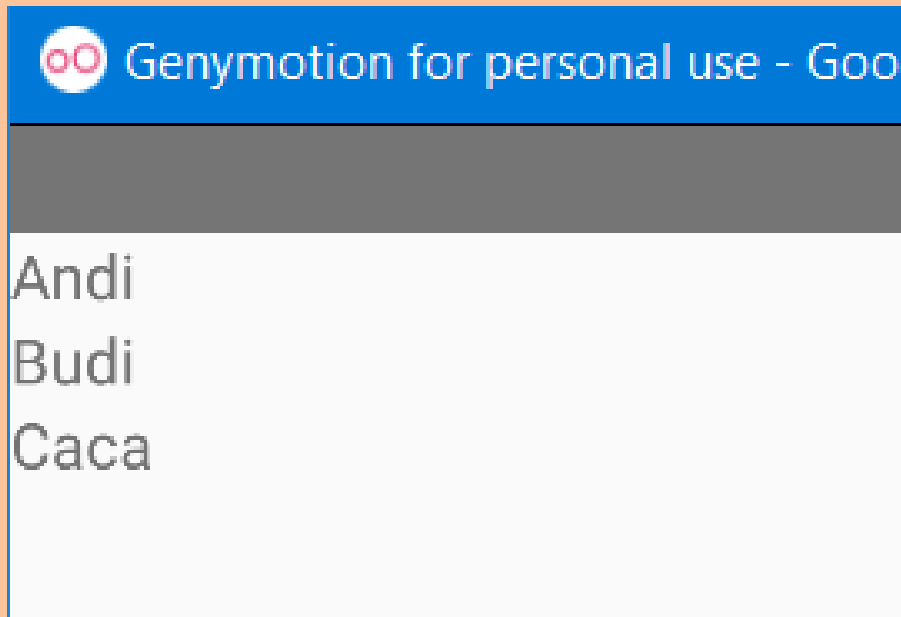
App.js

Rendering Multiple Elements

```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

class App extends Component {
  render() {
    const siswa = ['Andi','Budi','Caca'];
    const listSiswa = siswa.map((siswa, index)=>
       <Text key={index}> {siswa} </Text>
    );
    return (
       <View>
          { listSiswa }
       </View>
     );
  }
}
export default App;
```



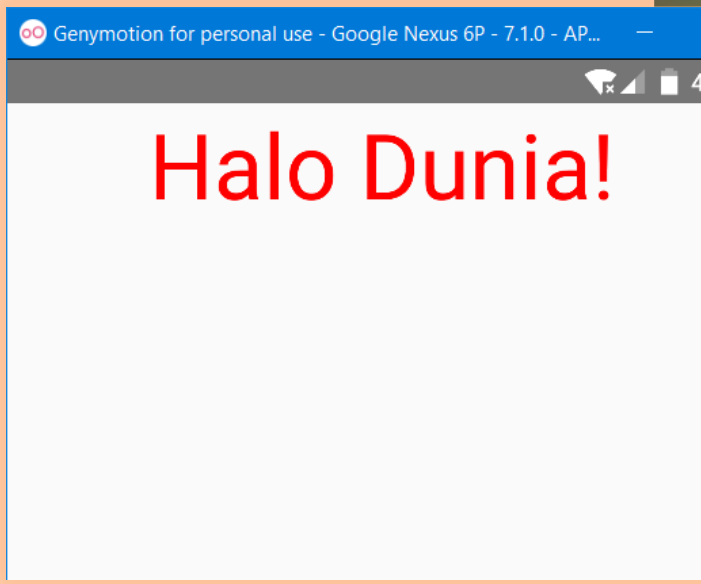
App.js

Styling

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class App extends Component {
  render() {
    return (
      <Text style={{
          color:'red',
          fontSize:50,
          textAlign:'center'}}>
          Halo Dunia!
      </Text>
    );
  }
}

export default App;
```



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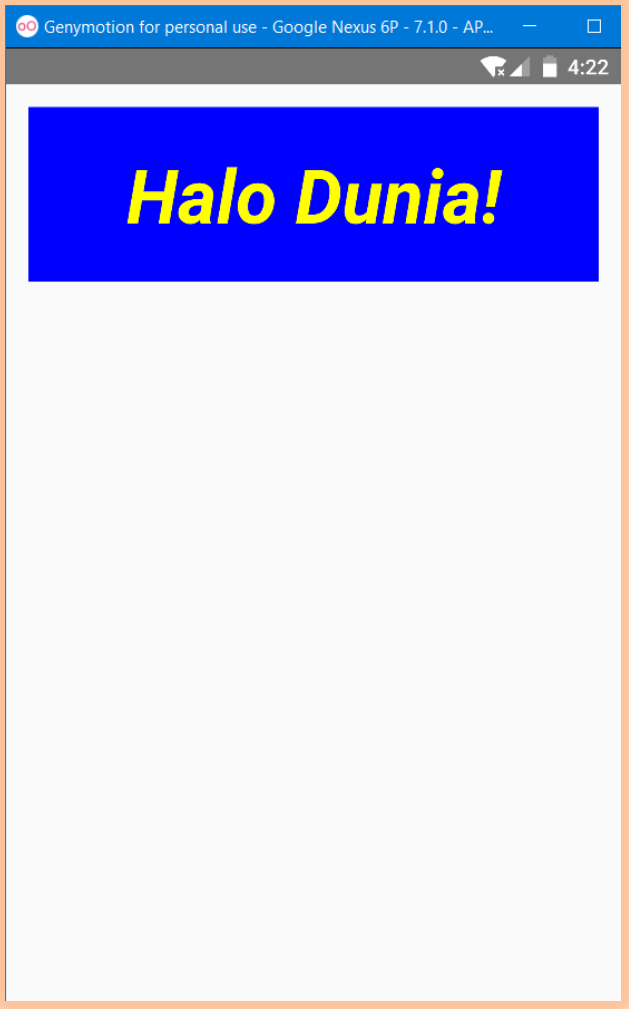
Styling

App.js

```
. . . . . .
<View>
  <Text style={{
    color:'yellow',
    backgroundColor:'blue',
    fontSize:50,
    fontStyle:'italic',
    fontWeight:'bold',
    textAlign:'center',
    padding:25,
    margin:15
  }}>
    Halo Dunia!
  </Text>
</View>
. . . . . .
```



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App.js

StyleSheet
#part1

```
import React, { Component } from 'react';
import { Text, View, StyleSheet } from
'react-native';

class App extends Component {
  render() {
    return (
      <View>
        <Text style={gaya.judul}>
          Ini Gayaku!
        </Text>
      </View>
    );
  }
}
```

. . . . . .

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App.js

StyleSheet
#part2

```
  . . . . . .
const gaya = StyleSheet.create({
    judul: {
        color:'blue',
        backgroundColor:'pink',
        fontSize:50,
        fontStyle:'italic',
        fontWeight:'bold',
        textAlign:'center',
        padding:25,
        margin:15
    },
});

export default App;
```

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App.js

Multiple StyleSheet
#part1

```
import React, { Component } from 'react';
import { Text, View, StyleSheet } from 'react-native';

class App extends Component {
  render() {
    return (
      <View>
        <Text style={gaya.teksA}>
          Ini Teks A
        </Text>
        <Text style={gaya.teksB}>
          Ini Teks B
        </Text>
      </View>
    );
  }
}
```

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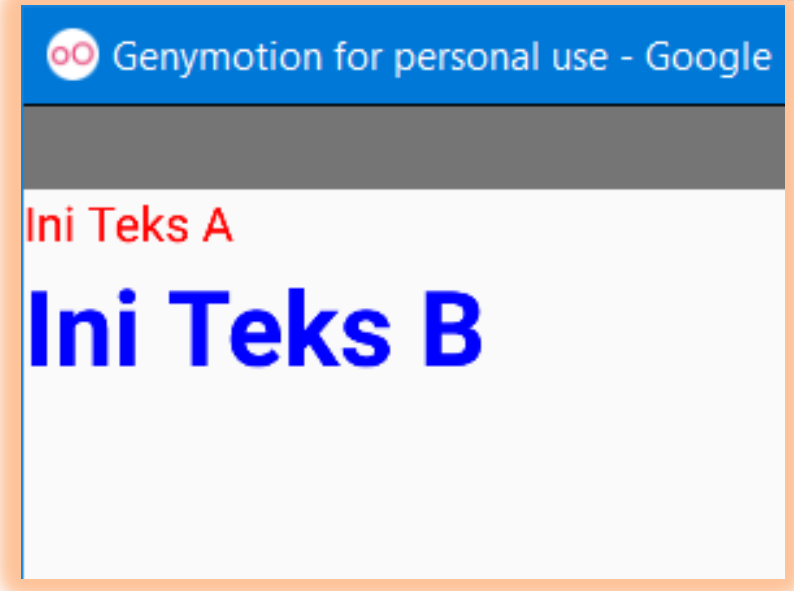
App.js

Multiple StyleSheet
#part2

```
  . . . . . .
const gaya = StyleSheet.create({
    teksA: {
        color:'red',
    },
    teksB: {
        color:'blue',
        fontSize:30,
        fontWeight:'bold',
    },
});

export default App;
```



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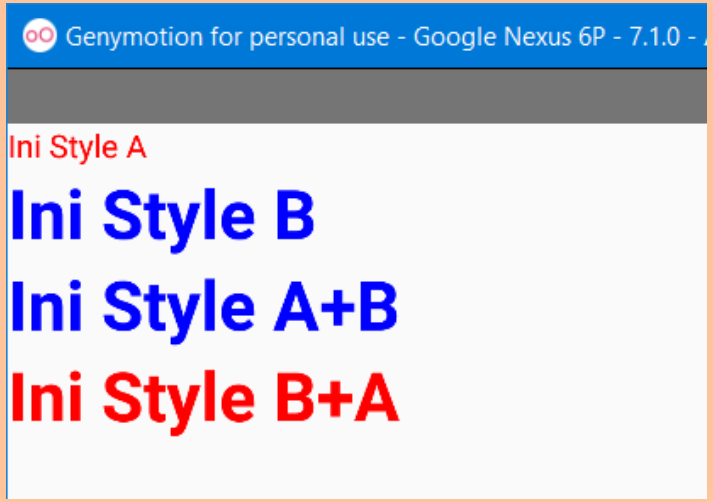
App.js

Array Style

```
. . . . . .

<View>
  <Text style={gaya.teksA}>
    Ini Style A
  </Text>
  <Text style={gaya.teksB}>
    Ini Style B
  </Text>
  <Text style={[gaya.teksA,gaya.teksB]}>
    Ini Style A+B
  </Text>
  <Text style={[gaya.teksB,gaya.teksA]}>
    Ini Style B+A
  </Text>
</View>

. . . . . .
```



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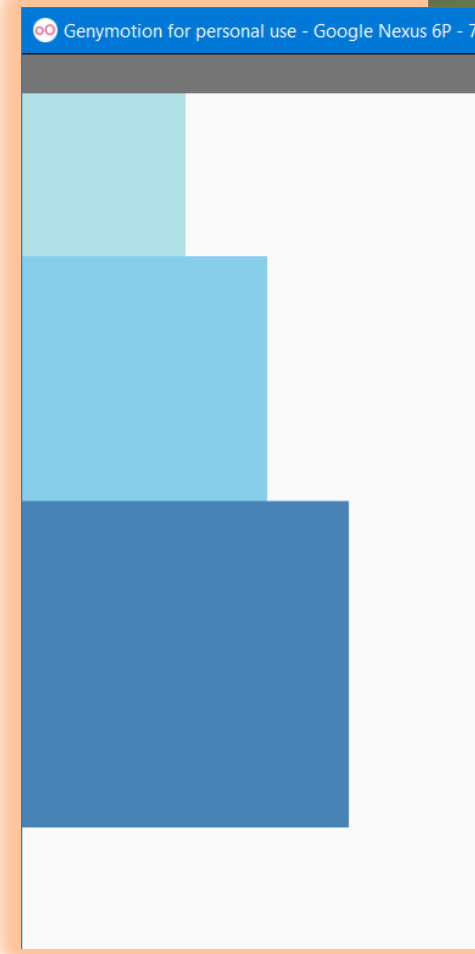
App.js

Height & Width

```
import React, { Component } from 'react';
import { View } from 'react-native';

class App extends Component {
 render() {
  return (
   <View>
    <View style={{width: 100, height: 100,
    backgroundColor: 'powderblue'}} />
    <View style={{width: 150, height: 150,
    backgroundColor: 'skyblue'}} />
    <View style={{width: 200, height: 200,
    backgroundColor: 'steelblue'}} />
   </View>
  );
 }
}

export default App;
```



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App.js

Flex Direction
#Column

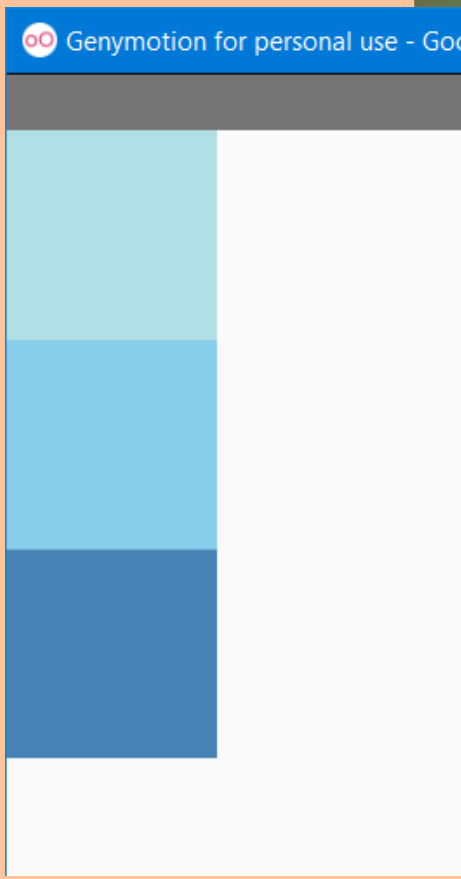
```
. . . . . .

<View style={{flexDirection: 'column'}}>
   <View style={{width: 90, height: 90,
   backgroundColor: 'powderblue'}} />

   <View style={{width: 90, height: 90,
   backgroundColor: 'skyblue'}} />

   <View style={{width: 90, height: 90,
   backgroundColor: 'steelblue'}} />
</View>

. . . . . .
```



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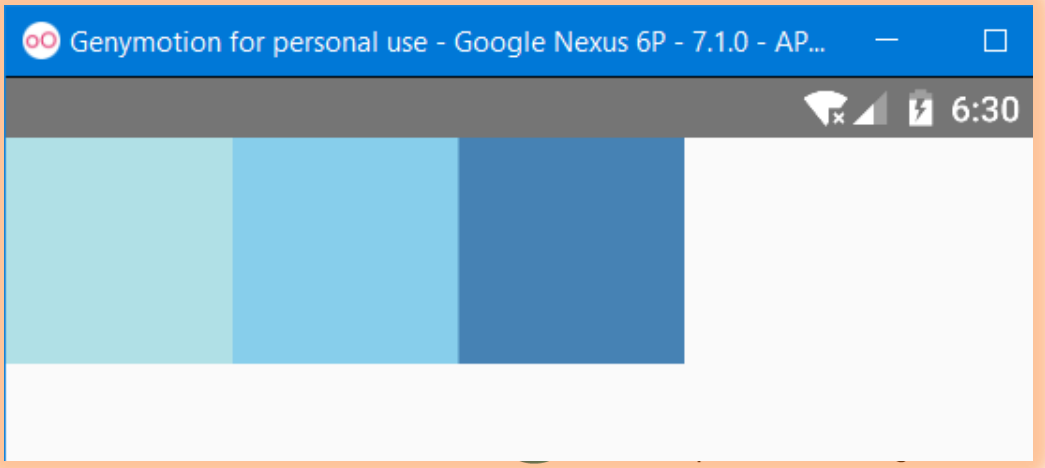
App.js

Flex Direction
#Row

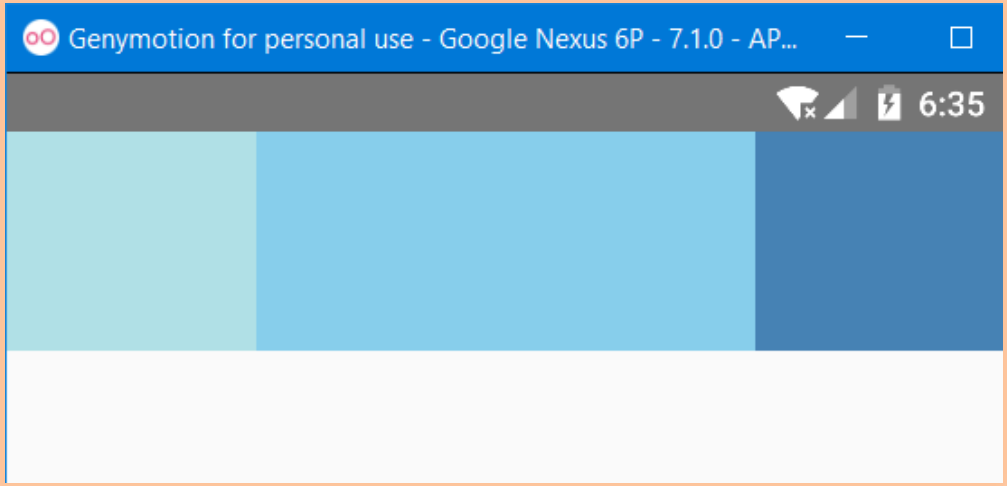
```
. . . . . .

<View style={{flexDirection: 'row'}}>
    <View style={{width: 90, height: 90,
    backgroundColor: 'powderblue'}} />

    <View style={{width: 90, height: 90,
    backgroundColor: 'skyblue'}} />

    <View style={{width: 90, height: 90,
    backgroundColor: 'steelblue'}} />
</View>

. . . . . .
```



App.js

Flex

```
. . . . . .

<View style={{flexDirection: 'row'}}>
    <View style={{flex:1, width: 90, height: 90,
    backgroundColor: 'powderblue'}} />

    <View style={{flex:2, width: 90, height: 90,
    backgroundColor: 'skyblue'}} />

    <View style={{flex:1, width: 90, height: 90,
    backgroundColor: 'steelblue'}} />
</View>

. . . . . .
```

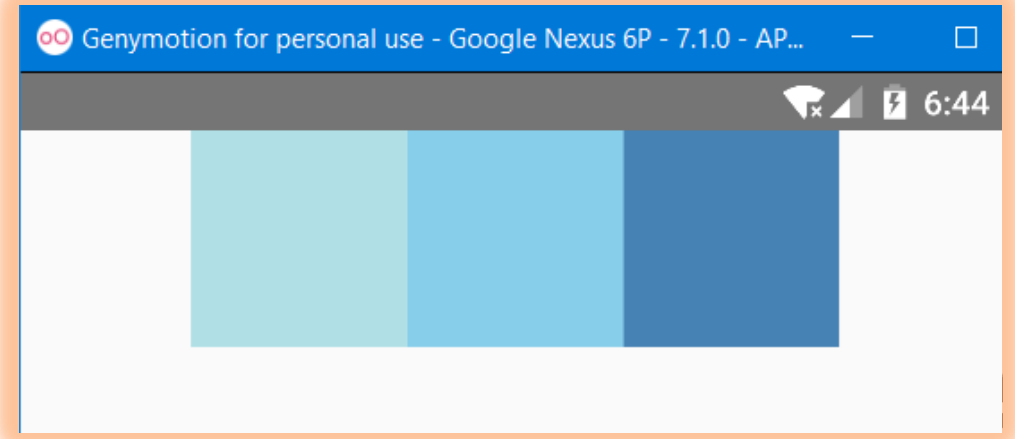


Justify Content

#Center

App.js

```
<View style={{flexDirection: 'row',
justifyContent: 'center'}}>
   <View style={{width: 90, height: 90,
   backgroundColor: 'powderblue'}} />
   <View style={{width: 90, height: 90,
   backgroundColor: 'skyblue'}} />
   <View style={{width: 90, height: 90,
   backgroundColor: 'steelblue'}} />
</View>
```

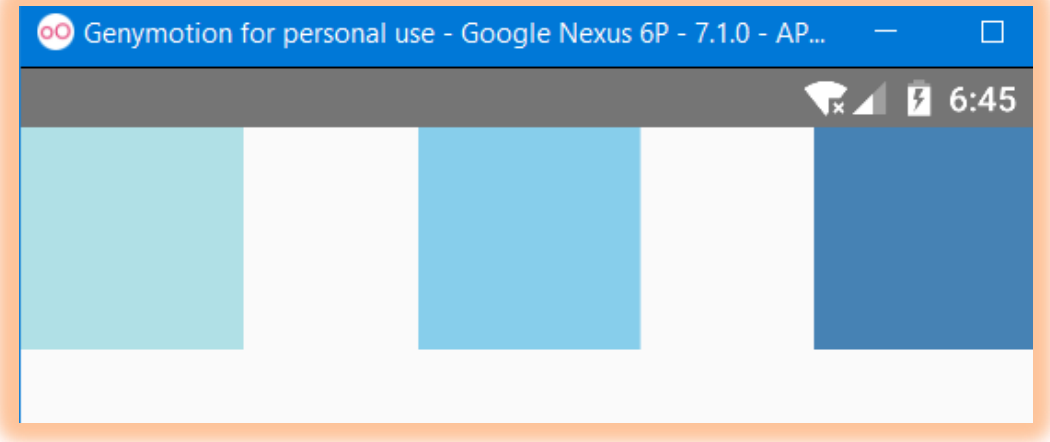


Justify Content

#Space

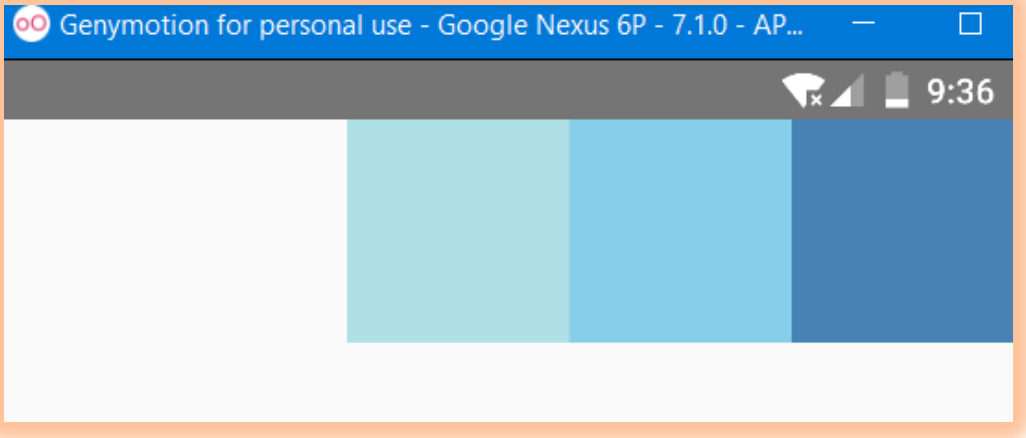
App.js

```
. . . . . .
<View style={{flexDirection: 'row',
justifyContent: 'space-between'}}>
    <View style={{width: 90, height: 90,
    backgroundColor: 'powderblue'}} />
    <View style={{width: 90, height: 90,
    backgroundColor: 'skyblue'}} />
    <View style={{width: 90, height: 90,
    backgroundColor: 'steelblue'}} />
</View>
. . . . . .
```



Justify Content
#Flex-End
App.js

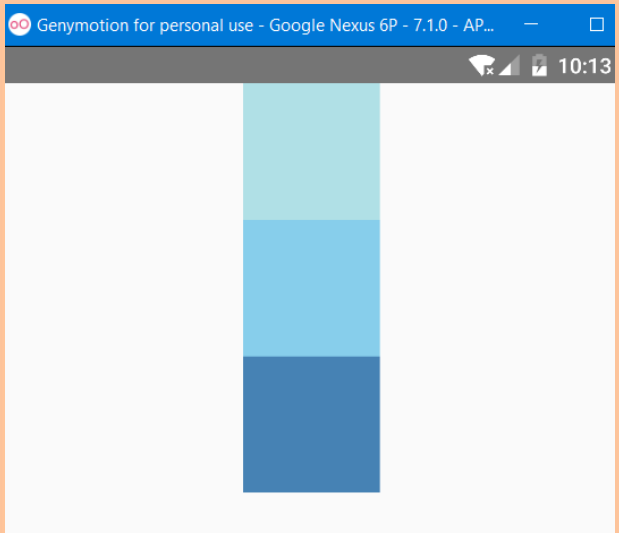
```
<View style={{flexDirection: 'row',
justifyContent: 'flex-end'}}>
   <View style={{width: 90, height: 90,
   backgroundColor: 'powderblue'}} />
   <View style={{width: 90, height: 90,
   backgroundColor: 'skyblue'}} />
   <View style={{width: 90, height: 90,
   backgroundColor: 'steelblue'}} />
</View>
```

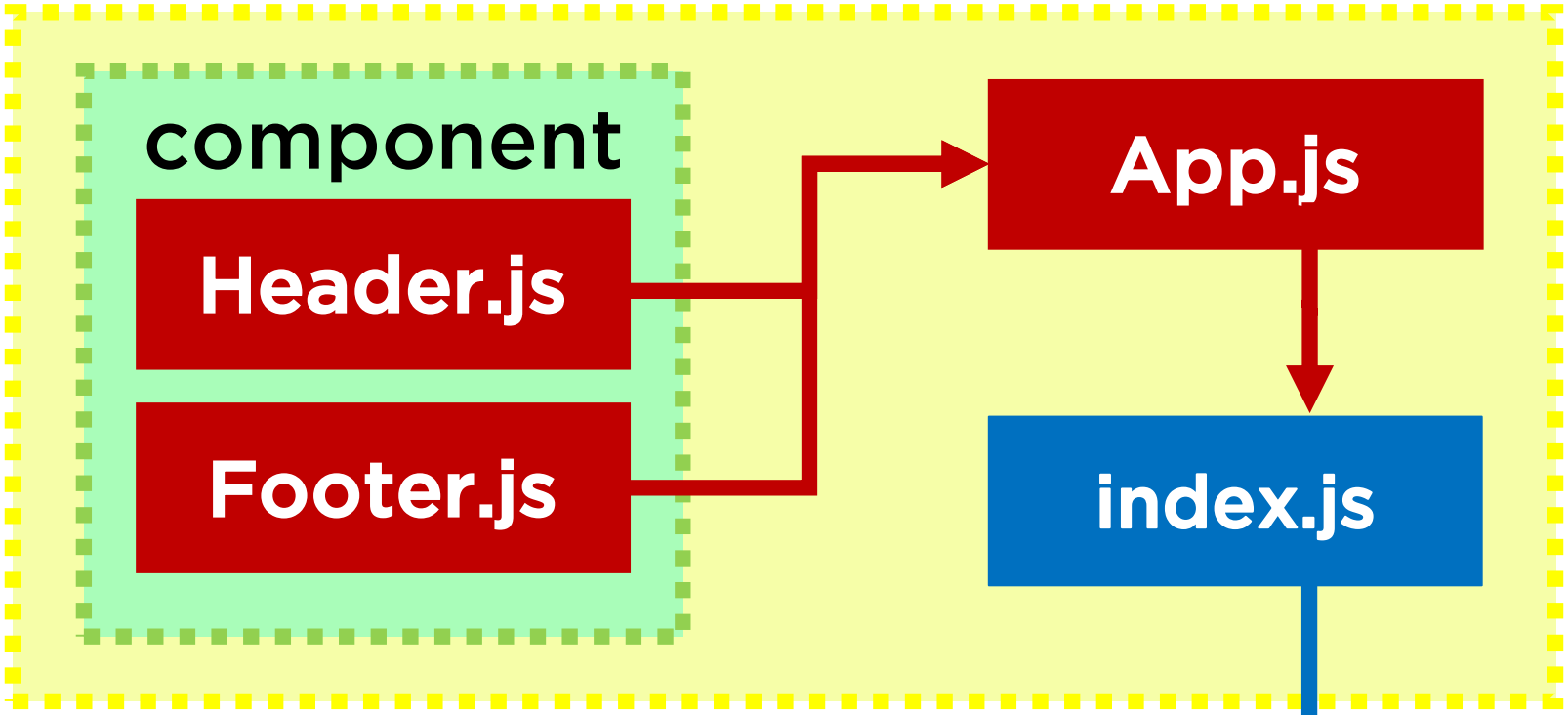


Align Items

App.js

```
. . . . . .

<View style={{flexDirection: 'column',
alignItems: 'center'}}>

   <View style={{width: 90, height: 90,
   backgroundColor: 'powderblue'}} />

   <View style={{width: 90, height: 90,
   backgroundColor: 'skyblue'}} />

   <View style={{width: 90, height: 90,
   backgroundColor: 'steelblue'}} />
</View>

. . . . . .


// alignItems: 'flex-start'
// alignItems: 'flex-end'
```





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component/Header.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class Header extends Component {
  render() {
    return (
      <Text>
      Ini dari Header.js
      </Text>
    );
  }
}

export default Header;
```

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component/Footer.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class Footer extends Component {
  render() {
    return (
      <Text>
      Ini dari Footer.js
      </Text>
    );
  }
}

export default Footer;
```

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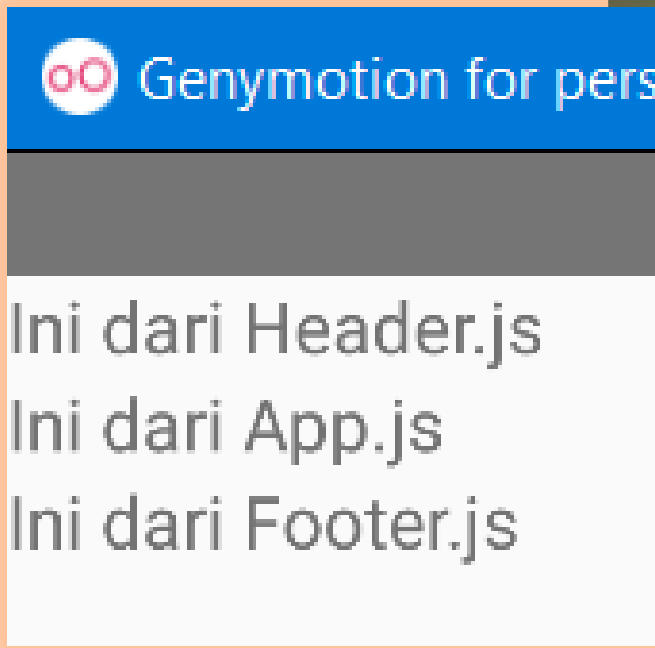
App.js

```
import React, { Component } from 'react';
import { View, Text } from 'react-native';
import Header from './component/Header';
import Footer from './component/Footer';

class App extends Component {
 render() {
  return (
   <View>
    <Header/>
    <Text>Ini dari App.js</Text>
    <Footer/>
   </View>
  );
 }
}
export default App;
```



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State & Props

- There are 2 types of data that control a component: *State* & *Props*.
- *Props* are set by the parent and they're fixed throughout the lifetime of a component. For data that is going to change, we have to use *State*.

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State

- In general, we should initialize state in the `constructor`, and then call `setState` when we want to change it.
- State is mutable, and defines at any given time, the current state of the React component that is being rendered.

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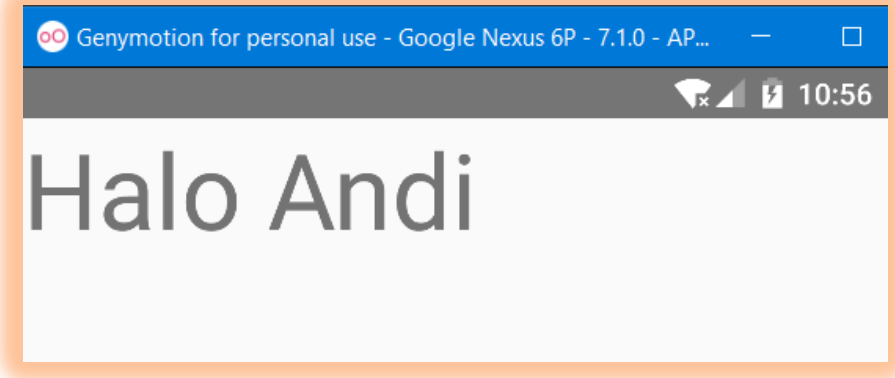
State

App.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class App extends Component {
  constructor(){
    super();
    this.state = {nama:'Andi'}
  }
  render() {
    return (
      <Text style={{fontSize:50}}>
      Halo { this.state.nama }
      </Text>
    );
  }
}

export default App;
```

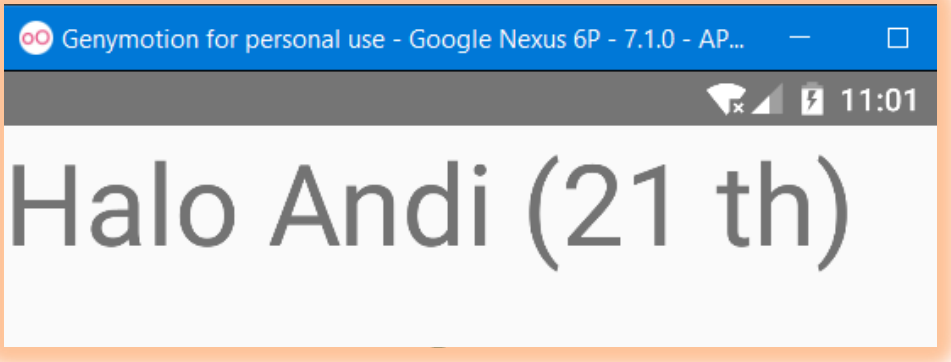


State
App.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class App extends Component {
  constructor(){
    super();
    this.state = {nama:'Andi', usia:21}
  }
  render() {
    return (
      <Text style={{fontSize:50}}>
      Halo { this.state.nama }
      ({ this.state.usia } th)
      </Text>
    );
  }
}

export default App;
```



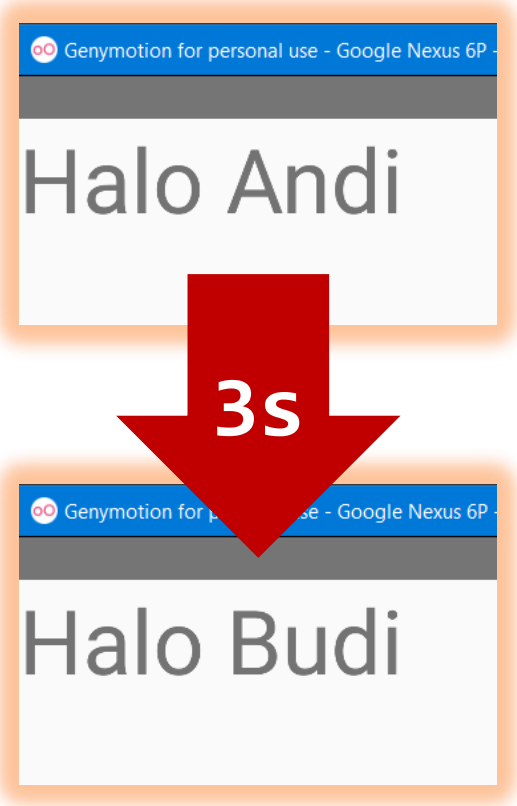
Updating State

App.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class App extends Component {
  constructor(){
    super();
    this.state = {nama:'Andi'}
  }
  render() {
    setTimeout(() => {
      this.setState({nama: 'Budi'});
    }, 3000)
    return (
      <Text style={{fontSize:50}}>
      Halo { this.state.nama }
      </Text>
    );
  }
}

export default App;
```



Props

- Most components can be customized with different parameters when they are created. These creation parameters are called *Props (Properties)*.
- It lets you make a component that is used in many different places in your app, with slightly different properties in each places.
- For short, props are static properties on a React component that are immutable (cannot be changed).

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Props #1

App.js

```
import React, { Component } from 'react';
import { View, Text } from 'react-native';
import Header from './component/Header';

class App extends Component {
 render() {
  var teks = 'Ini Props!';
  return (
   <View>
    <Header konten={teks} />
   </View>
  );
 }
}
export default App;
```

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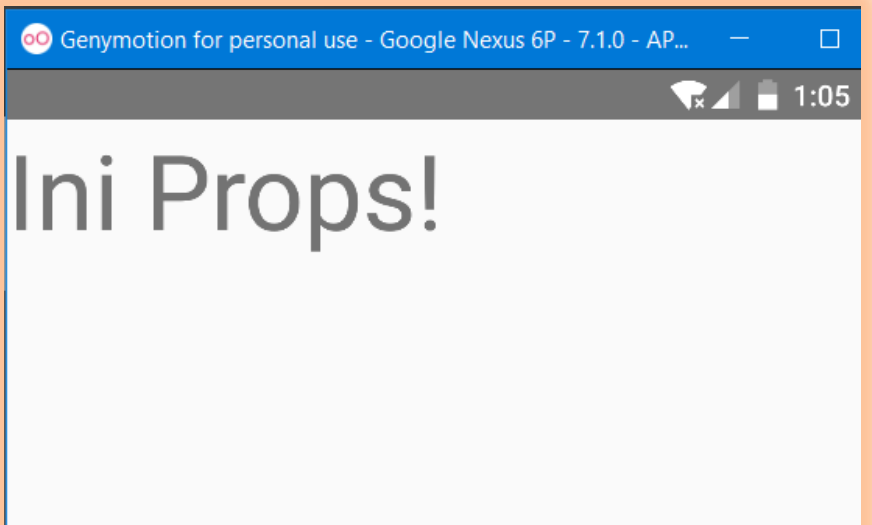
Props #1

component/Header.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class Header extends Component {
  render() {
    return (
      <Text style={{fontSize:50}}>
        {this.props.konten}
      </Text>
    );
  }
}

export default Header;
```



Props #2

App.js

```
import React, { Component } from 'react';
import { View, Text } from 'react-native';
import Header from './component/Header';

class App extends Component {
 render() {
  var andi = {nama:'Andi', usia:21};
  return (
   <View>
    <Header x={andi.nama} y={andi.usia} />
   </View>
  );
 }
}
export default App;
```

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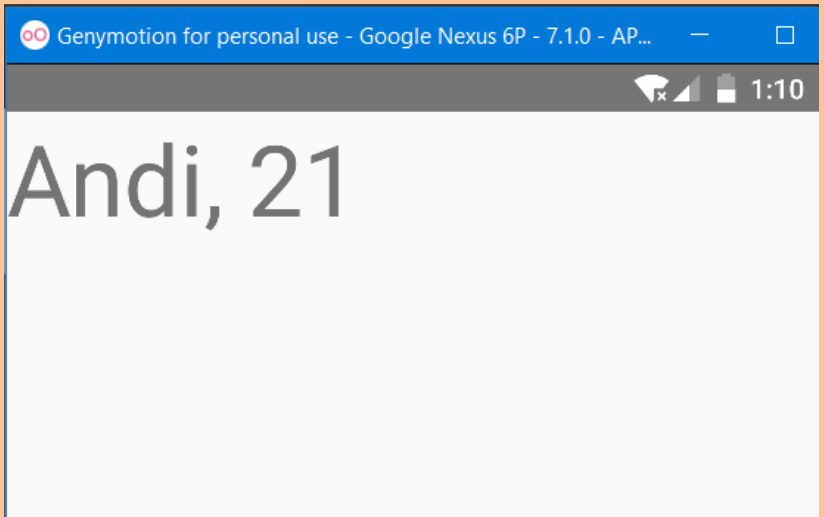
Props #2

component/Header.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class Header extends Component {
  render() {
    return (
      <Text style={{fontSize:50}}>
        {this.props.x}, {this.props.y}
      </Text>
    );
  }
}

export default Header;
```



State → Props

App.js

```
import React, { Component } from 'react';
import { View, Text } from 'react-native';
import Header from './component/Header';

class App extends Component {
 constructor(){
  super();
  this.state={y:'Ini Props dari State'}
 }
 render() {
  return (
   <View>
    <Header x={this.state.y} />
   </View>
  );
 }
}
export default App;
```

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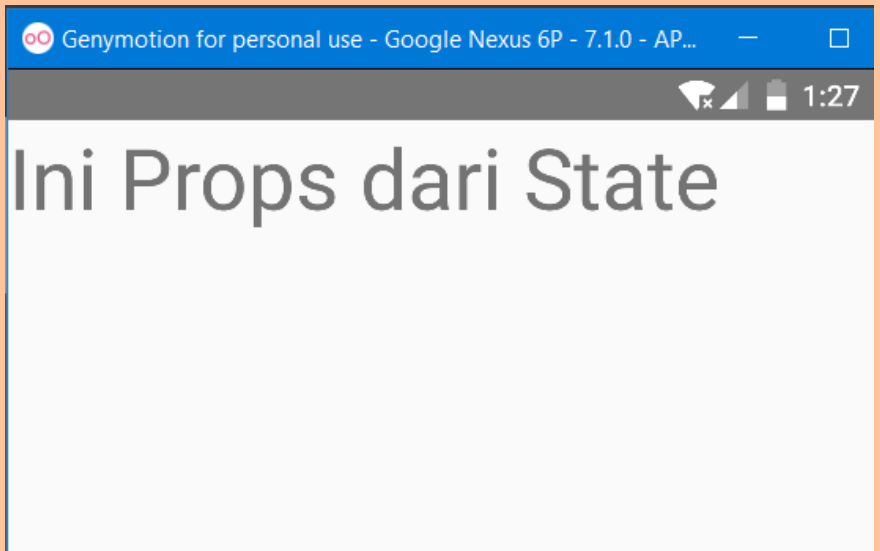
State → Props

component/Header.js

```
import React, { Component } from 'react';
import { Text } from 'react-native';

class Header extends Component {
  render() {
    return (
      <Text style={{fontSize:35}}>
        {this.props.x}
      </Text>
    );
  }
}

export default Header;
```



Life-cycle Methods
#1 Mounting

- componentWillMount(){}

Invoked once on both client and server, immediately before the initial rendering occurs.

- componentDidMount(){}

Invoked once only on client, immediately after the initial rendering occurs.

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Life-cycle Methods
#2 Updating

- componentWillUpdate()

Invoked immediately before rendering when new props or state are being received. This isn't called for the initial render.

- componentDidUpdate()

Invoked immediately after the component's updates are flushed to the DOM. This isn't called for the initial render.

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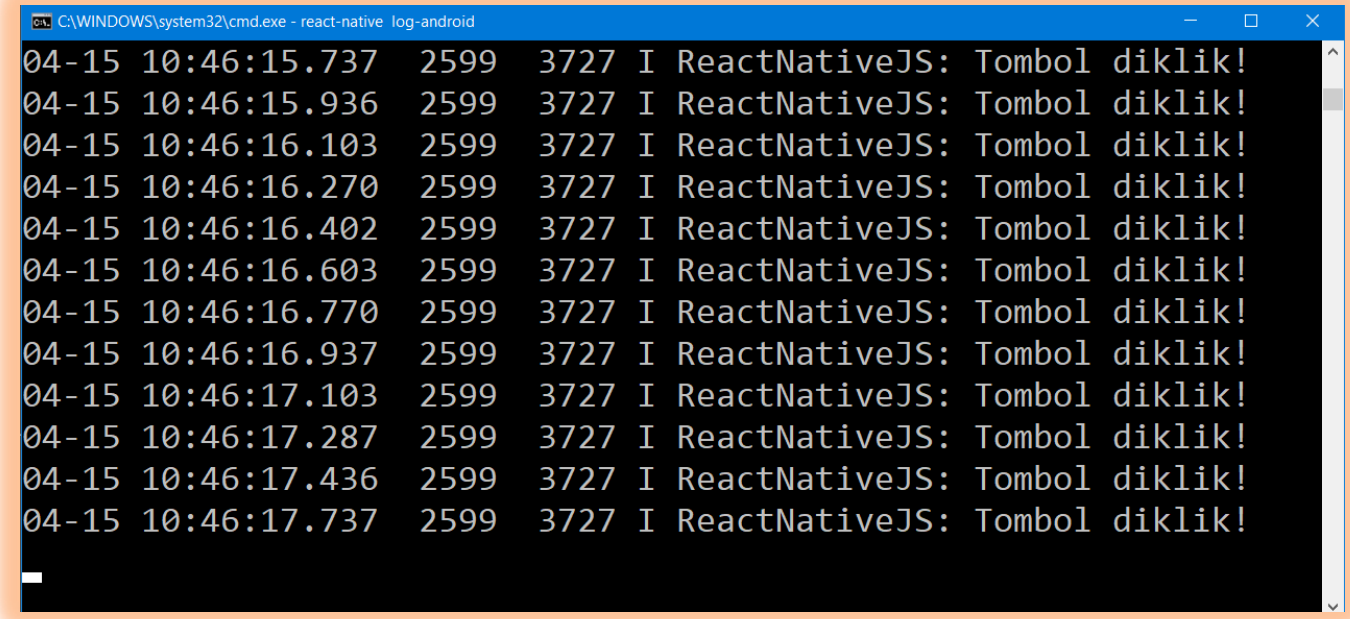
console.log

- To monitor React Native project through console, you can easily open a new terminal then type:

```
$ react-native log-android
```



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#2 Fundamental

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