

# purity

Validates that components/hooks are pure by checking that they do not call known-impure functions.

## Rule Details

React components must be pure functions - given the same props, they should always return the same JSX. When components use functions like `Math.random()` or `Date.now()` during render, they produce different output each time, breaking React's assumptions and causing bugs like hydration mismatches, incorrect memoization, and unpredictable behavior.

## Common Violations

In general, any API that returns a different value for the same inputs violates this rule.

Usual examples include:

- `Math.random()`
- `Date.now() / new Date()`
- `crypto.randomUUID()`
- `performance.now()`

## Invalid

Examples of incorrect code for this rule:

```
// ✗ Math.random() in render
function Component() {
  const id = Math.random(); // Different every render
  return <div key={id}>Content</div>;
```

```
// ✗ Date.now() for values
function Component() {
  const timestamp = Date.now(); // Changes every render
  return <div>Created at: {timestamp}</div>;
}
```

## Valid

Examples of correct code for this rule:

```
// ✓ Stable IDs from initial state
function Component() {
  const [id] = useState(() => crypto.randomUUID());
  return <div key={id}>Content</div>;
}
```

## Troubleshooting

### I need to show the current time

Calling `Date.now()` during render makes your component impure:

```
// ✗ Wrong: Time changes every render
function Clock() {
  return <div>Current time: {Date.now()}</div>;
}
```

Instead, move the impure function outside of render:

```
function Clock() {
  const [time, setTime] = useState(() => Date.now());
  useEffect(() => {
```

```
const interval = setInterval(() => {
  setTime(Date.now());
}, 1000);

return () => clearInterval(interval);
}, []);

return <div>Current time: {time}</div>;
}
```

이전

다음

[preserve-manual-memoization](#)

[refs](#)

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## API 참고서

[React APIs](#)

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