**🚀 Framer Motion Cheatsheet (React Animation)**

**🔹 1. Basic Setup**

import { motion } from "framer-motion";

Wrap any element with motion.:

<motion.div initial={{ opacity: 0 }} animate={{ opacity: 1 }}>

Fade In

</motion.div>

**🔹 2. Main Props**

* **initial** → starting state (before animation runs)
* **animate** → target state (where it animates to)
* **exit** → animation when component unmounts
* **transition** → controls speed, type, delay, easing

Example:

<motion.div

initial={{ x: -100, opacity: 0 }}

animate={{ x: 0, opacity: 1 }}

exit={{ opacity: 0 }}

transition={{ duration: 0.8, ease: "easeOut" }}

/>

**🔹 3. Common Animations**

* **Fade In**

<motion.div initial={{ opacity: 0 }} animate={{ opacity: 1 }} />

* **Slide In**

<motion.div initial={{ x: -100 }} animate={{ x: 0 }} />

* **Scale (Pop)**

<motion.div initial={{ scale: 0.5 }} animate={{ scale: 1 }} />

* **Rotate**

<motion.div animate={{ rotate: 360 }} transition={{ duration: 2 }} />

**🔹 4. Transitions**

transition={{

duration: 1, // animation speed

delay: 0.5, // wait before start

ease: "easeInOut", // easing type

type: "spring", // springy motion

stiffness: 100, // spring tightness

}}

**🔹 5. Variants (Reusable Animations)**

Define once, reuse anywhere:

const boxVariant = {

hidden: { opacity: 0, x: -50 },

visible: { opacity: 1, x: 0 }

};

<motion.div

variants={boxVariant}

initial="hidden"

animate="visible"

/>

With **staggered children**:

<motion.ul variants={{ visible: { transition: { staggerChildren: 0.2 }}}}>

<motion.li variants={boxVariant}>Item 1</motion.li>

<motion.li variants={boxVariant}>Item 2</motion.li>

</motion.ul>

**🔹 6. Gestures**

* **Hover**

<motion.button whileHover={{ scale: 1.1 }} />

* **Tap/Click**

<motion.button whileTap={{ scale: 0.9 }} />

* **Drag**

<motion.div drag="x" dragConstraints={{ left: -100, right: 100 }} />

**🔹 7. Scroll Animations**

Use whileInView:

<motion.div

initial={{ opacity: 0, y: 50 }}

whileInView={{ opacity: 1, y: 0 }}

viewport={{ once: true, amount: 0.5 }}

/>

**🔹 8. Keyframe Animations**

<motion.div

animate={{ opacity: [0, 0.5, 1], x: [0, 50, 0] }}

transition={{ duration: 2 }}

/>

✅ **Tips to remember:**

* **Use motion. prefix** (e.g., motion.div) to animate anything.
* **initial → animate → exit** is the core pattern.
* **whileHover, whileTap, drag, whileInView** = interactive + scroll magic.
* **Variants** = reusable + clean animation logic.