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import { useEffect, useState } from "react"

const LEAK_RATE = 1 / 1000

export default function LeakyBucket() {
  const [charQueue, setCharQueue] = useState<string[]>([])
  const [outputQueue, setOutputQueue] = useState<string[]>([])

  const appendChar = (char: string) => {
    setCharQueue((prevChars) => {
      return [...prevChars, char]
    })
  }

  useEffect(() => {
    function keyHandler(event: KeyboardEvent) {
      appendChar(event.key)
    }

    window.addEventListener("keydown", keyHandler)

    return () => {
      window.removeEventListener("keydown", keyHandler)
    }
  }, [])

  useEffect(() => {
    const interval = setInterval(() => {
      setCharQueue((prevChars) => {
        const [char, ...rest] = prevChars
        setOutputQueue((prevOutput) => {
          return [...prevOutput, char]
        })
        return rest
      })
    }, 1 / LEAK_RATE)

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

  return (
    <div
      className={
        "w-screen h-screen flex flex-col items-center justify-
center p-4 gap-4"
      }
    >
      <div className={"flex flex-col items-center gap-2"}>
        <div className={"flex gap-2"}>

```

```

        <span>{"Input: "}</span>
        <span>{charQueue.join("")}</span>
    </div>
    <div className={"flex gap-2"}>
        <span>{"Output: "}</span>
        <span>{outputQueue.join("")}</span>
    </div>
    <button
        onClick={() => {
            setCharQueue([])
            setOutputQueue([])
        }}
        className={"p-2 px-4 border border-black rounded"}
    >
        Clear
    </button>
</div>
</div>
)
}

```

Input: ringShift
Output: test st

Clear

Tokens: 8
Input: ringShift
Output: test st

Clear