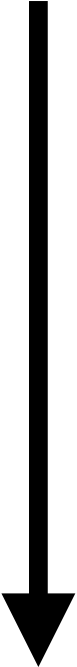


Does the real-time
thread mutate the
object?

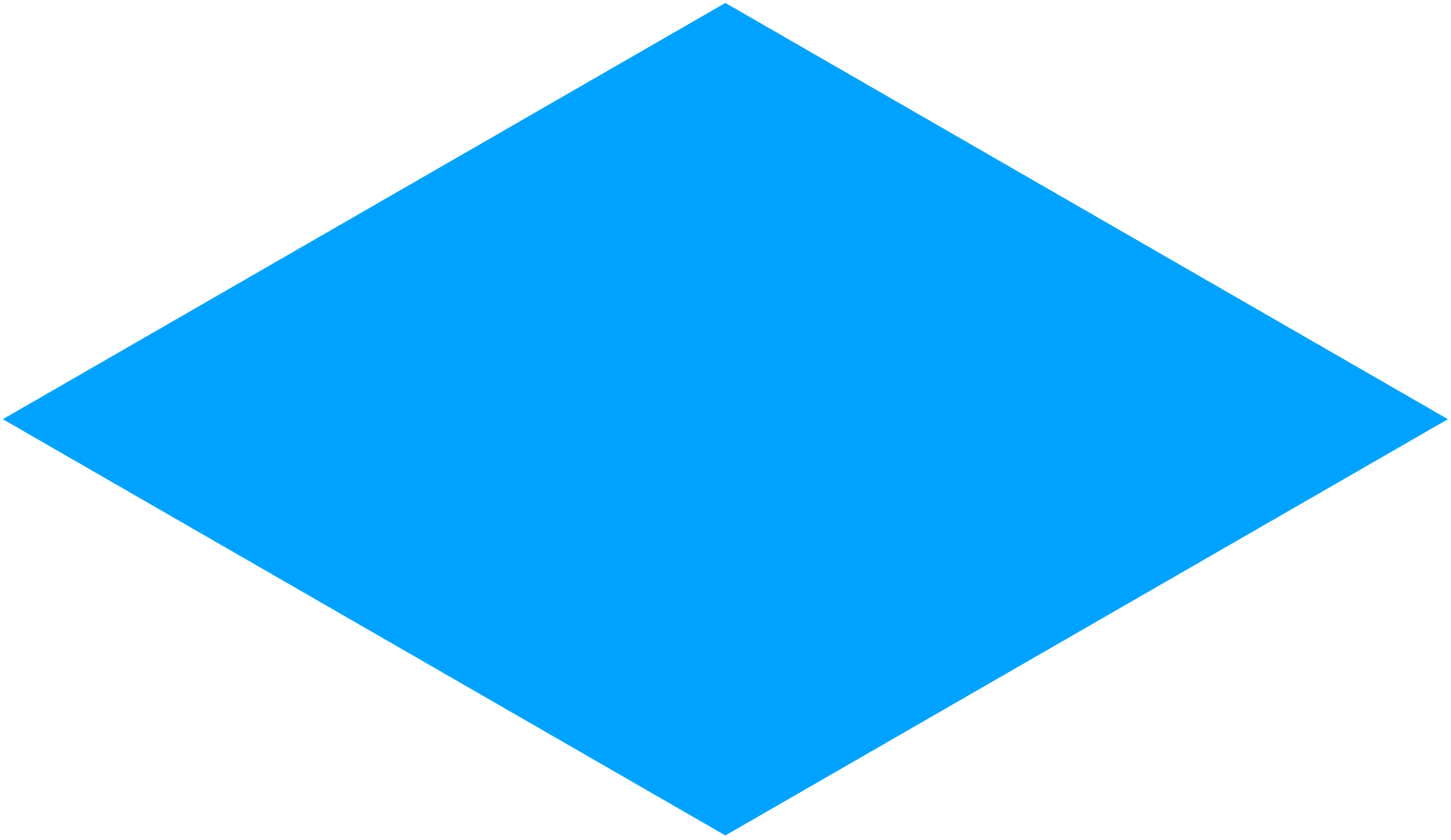
CAS loop



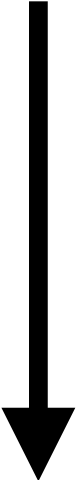
No

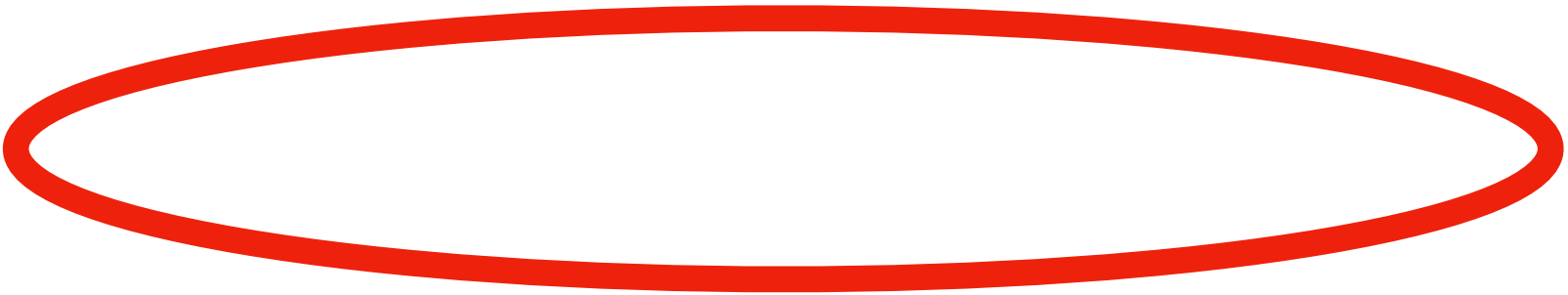


Yes



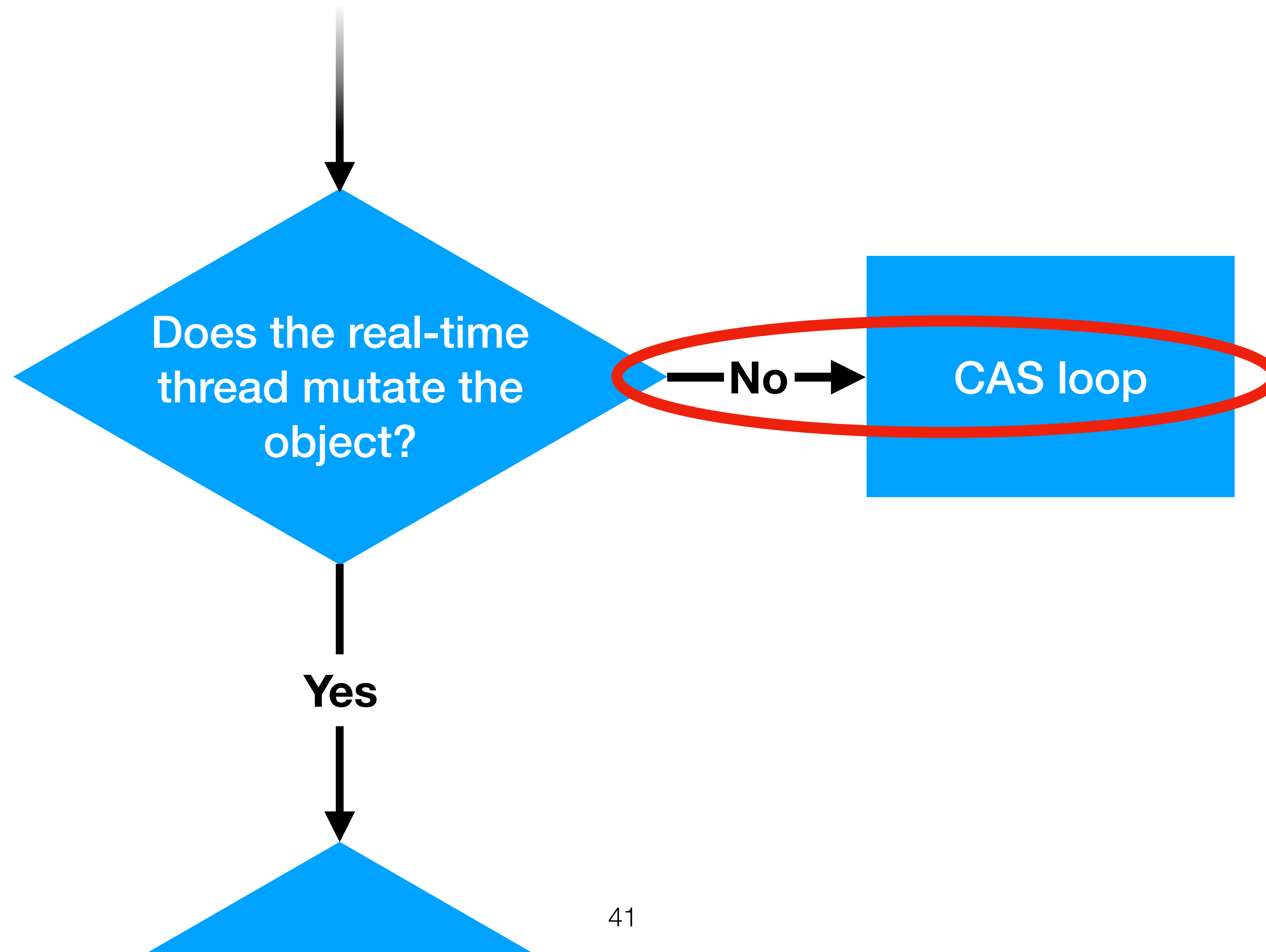
Real-time Mutating?







Real-time Mutating?



```

struct BiquadCoefficients { float b0, b1, b2, a1, a2; };
BiquadCoefficients coeffs;

BiquadCoefficients calculateLowPassCoefficients (float freq);

void audioThread (const float* src, float* dst, size_t n)
{
    static float lv1, lv2;

    for (size_t i = 0; i < n; ++i)
    {
        auto input = src[i];
        auto output = (input * coeffs.b0) + lv1;
        dst[i] = output;

        lv1 = (input * coeffs.b1) - (output * coeffs.a1) + lv2;
        lv2 = (input * coeffs.b2) - (output * coeffs.a2);
    }
}

void updateFrequencyParameter (float newValue)
{
    coeffs = calculateLowPassCoefficients (newValue);
}

```