```
auto gain = 1.0f;




void processSensorData (float* sensorInOut, int n)
{
    // do some dsp
    ...


    for (int i = 0; i < n; ++i)
        sensorInOut[i] *= gain;
}

// called on another thread
void setSensorGain (float newGain)
{
    gain = newGain;
}
```

- Is this ok?

- How about on a single core machine?

- Sharing data between threads where one of them is a write is a data-race

- A data-race is undefined behaviour

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```
auto gain = 1.0f;
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```
void processSensorData (float* sensorInOut, int n)
{
    // do some dsp
    ...

    register auto gain_copy = gain;
    for (int i = 0; i < n; ++i)
        sensorInOut[i] *= gain_copy;
}

// called on another thread
void setSensorGain (float newGain)
{
    gain = newGain;
}
```