

WGSL Bug

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Code

```
1 @group(0)
2 @binding(0)
3 var<storage, read_write> flow: array<u32, 2>;
4
5 @compute
6 @workgroup_size(1)
7 fn main() {
8     var LOOP_COUNTER: u32 = 0u;
9     loop {
10         (flow)[0u] += 1u;
11         if (LOOP_COUNTER >= 1u) {
12             (flow)[1u] += 1u;
13             break;
14         }
15         LOOP_COUNTER += 1u;
16     }
17 }
```

Expected output is [2, 1] after executing break statement in second iteration of loop.

Results

Vendor	GPU	Dawn Vulkan Linux	wGPU Vulkan Linux	Dawn Vulkan Windows	wGPU Vulkan Windows	Dawn DX12 Windows	wGPU DX12 Windows
Nvidia	RTX 2060 Max-Q	Timeout	ND ¹	Zeros ²	Zeros ²	Correct	Correct
Nvidia	RTX 2060 Super	Timeout	ND ¹	Zeros ²		Correct	Correct
Nvidia	GTX 1050 Ti	Timeout	Correct	Zeros ²	Correct	Correct	Correct
Nvidia	Quadro 4000	Correct	Correct				
AMD	Ryzen 9 4900HS (iGPU)	Correct	Correct				
Intel	i7-9700K (iGPU)	Correct	Inconsistent ³				
Intel	i5-7400 (iGPU)	Correct	Correct				

¹Non Deterministic results where the first element is large and the second element is zero; produces correct result if either of the flow increments are removed.

²Output is [0, 0], presumed to be as a result of a timeout.

³Sometimes produces correct output, other times produces [0, 0] without timing out.