Brook to Hardware

Phase 1

Brook Code

```
kernel void SetValues (out Flow grid_out[x][y]) { … }

kernel void Convolve (Flow grid_in [-1..1][-1..1], out Flow grid_out, float rate) { ... }

kernel float Diverge (Flow diverge [-1..1][-1..1]) { ... }

void main (void) {
    Flow grid[1024][1024];
    float maxdiff;

    /* initialize grid */
    SetValues(grid);

    do {
        /* Perform the convolution */
        Convolve (grid, grid, 0.1f);
        maxdiff = max (Diverge(grid));
    while (maxdiff > THRESHOLD);
}
```

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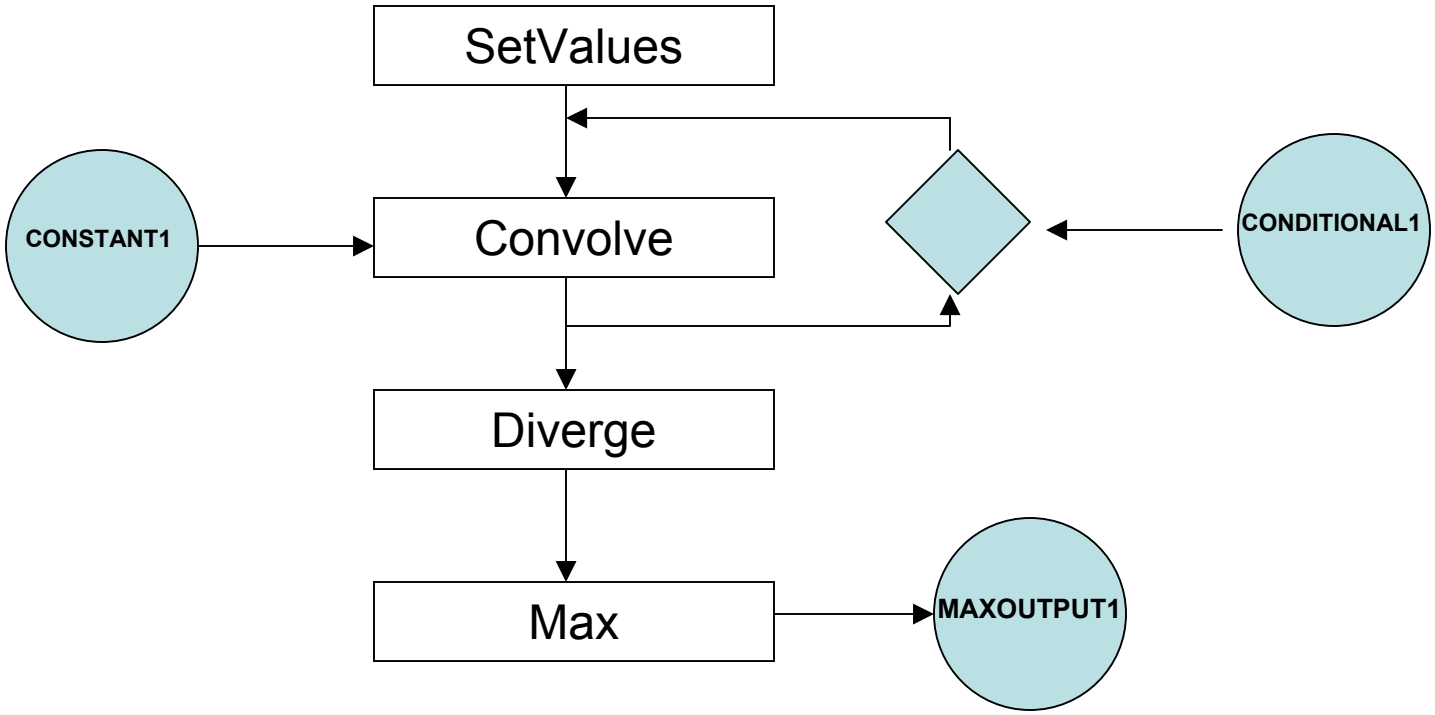
Stream Graph



Scalar Code

```
void main (void) {
    float maxdiff;

    do {
        SetScalar ("CONSTANT1", 0.1f);
        maxdiff = GetScalar ("MAXOUTPUT");
        SetScalar ("CONDITIONAL1", (maxdiff > THRESHOLD));
    while (maxdiff > THRESHOLD);
}
```