double quad(double left, right, fleft, fright, lrarea) {
    double mid = (left + right) / 2;
    double fmid = f(mid);
    double larea = (fleft+fmid) * (mid-left) / 2;
    double rarea = (fmid+fright) * (right-mid) / 2;
    if (abs((larea+rarea) - lrarea) > EPSILON) {
        // recurse to integrate both halves in parallel
        larea = quad(left, mid, fleft, fmid, larea);
        // rarea = quad(mid, right, fmid, fright, rarea);
    }
    return (larea + rarea);
}

Recursive Parallel Adaptive Quadrature

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