```
void saxpy_tbb(
    int n,      // the number of elements in the vectors
    float a,    // scale factor
    float x[],  // the first input vector
    float y[]   // the output vector and second input vector
) {
    tbb::parallel_for(
       tbb::blocked_range<int>(0, n),
       [&](tbb::blocked_range<int> r) {
          for (size_t i = r.begin(); i != r.end(); ++i)
             y[i] = a * x[i] + y[i];
       }
    );
}
```

LISTING 4.2

Tiled implementation of SAXPY in TBB. Tiling not only leads to better **spatial locality** but also exposes opportunities for vectorization by the host compiler.