

```

template<class T>
__device__ T plus_scan(T *x)
{
    unsigned int i = threadIdx.x;
    unsigned int n = blockDim.x;

    for(unsigned int offset=1; offset<n; offset *= 2)
    {
        T t;

        if(i>=offset) t = x[i-offset];
        __syncthreads();

        if(i>=offset) x[i] = t + x[i];
        __syncthreads();
    }
    return x[i];
}

```

FIGURE C.8.7 CUDA template for parallel plus-scan.