

Cumulative Algorithms

Cumulative algorithms such as **sum**, **average**, **standard deviation**, and **so on**, visit each element in the array and then add, multiply or otherwise process it.

Here is an example which adds all of the **even numbers** in an array named **a**:

- The array **a** is **const**, since the elements won't be changed.
- The **accumulator** **sum** is **double** so it doesn't overflow.
- Only the **even** elements (those where **n % 2 == 0**) are added.

```
double addEvens(const int a[], size_t len)
{
    double sum{0};
    for (size_t i = 0; i < len; ++i)
    {
        if (a[i] % 2 == 0) { sum += a[i]; }
    }
    return sum;
}
```



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