

Open MP → "data parallel"

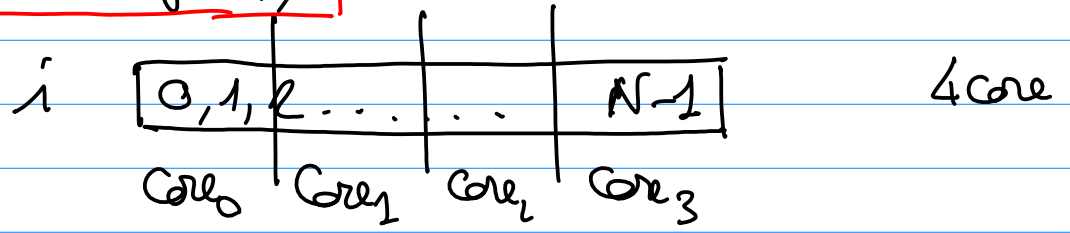
↳ Multicore SA MEM

C/C++ FORTRAN

lb (chambre)

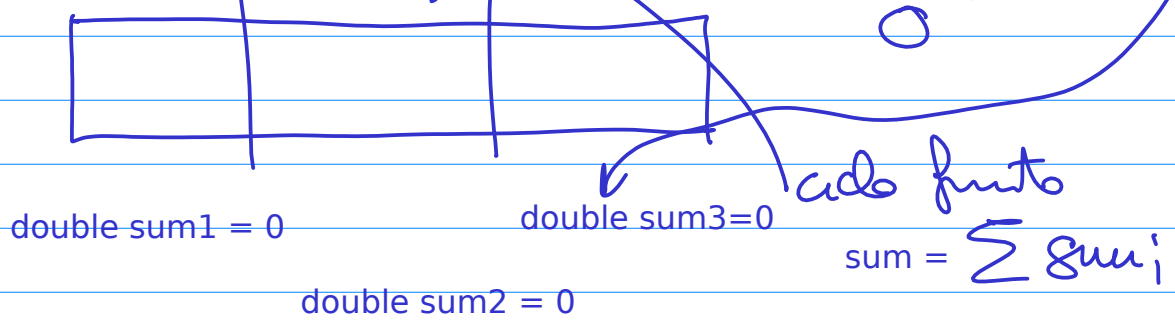
#pragma omp ...
g++ -fopenmp

```
#pragma omp parallel for
for(int i=0; i<N; i++)
x[i] = f(y[i]);
```



↓
sum sum sum sum

```
#pragma omp parallel for reduction(+:sum)
for { } =
```



#pragma omp parallel

num-threads(x)



#pragma omp for

schedule (type, chunksize)

} static, 100
} dynamic, 1024

guided
runtime

double sum; ←

```
#pragma omp parallel for
for ( ) {
    double x; sum
}
```

private(i)
shared(x)
shared(x, y, z)
first private(i)
last private(i)

"Task"

#pragma omp task



|||
}

#pragma omp barrier

BSC } Superscalar
Stress

#pragma omp critical
|
|
|
|
}

#pragma omp atomic
sum += ...

#pragma omp single
{ = }

#pragma omp barrier

tid = omp_get_thread_num ()
 # omp_get_num_threads ()
 → # omp_set_num_threads ()
 omp_get_wtime ()

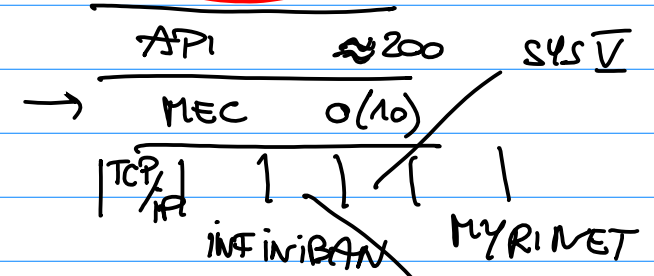
void omp_init_lock (omp_lock_t *)
 void omp_set (*)
 void omp_unset (*)
 int omp_test (*)

standard de facto

OpenMP

MPI (SPMD)

TBB
(intel)



STAMBA
mult-core

COU / NOW

LPS
ZERO COPY
KNEN

