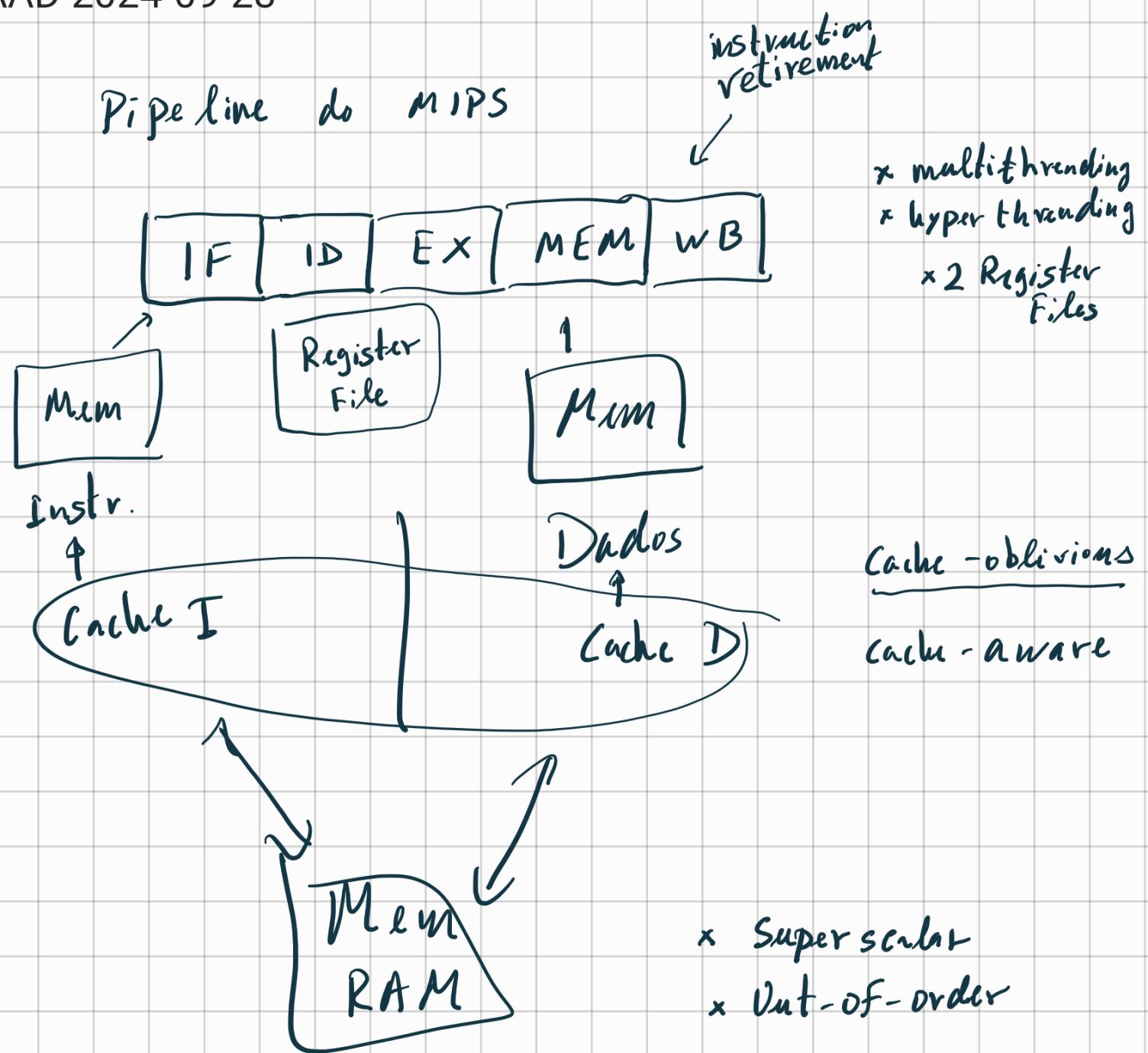


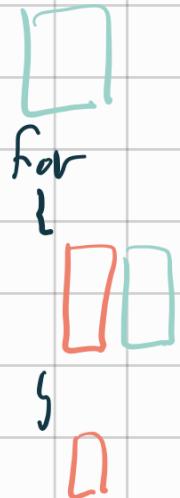
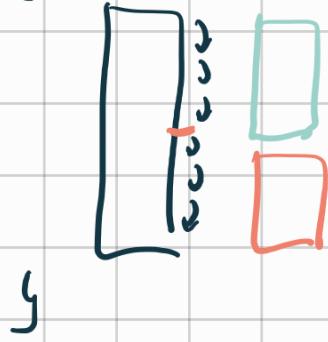
Pipeline do MIPS



$a = 3;$
 $b = 7;$
 $c = 11;$
 $d = a + b;$
 $e = b + c;$
 $f = a + c;$
 $g = d + e;$
 $h = a + c;$

Software pipelining

For (...)
2

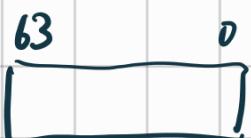


RAID

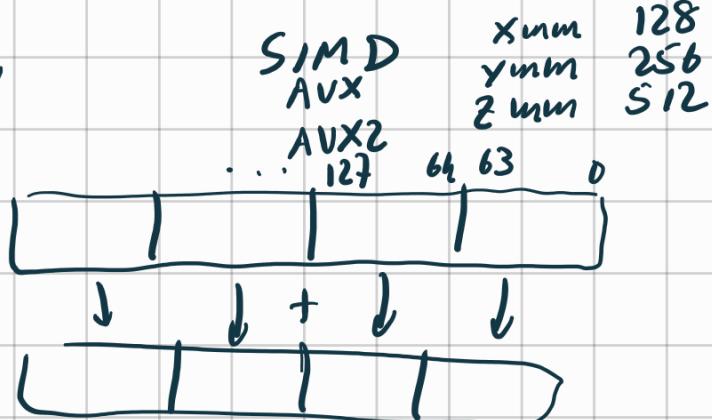
2024-09-30

```
[sum=0;
for (int i=0; i<1000; i++)
    sum += a[i];]
```

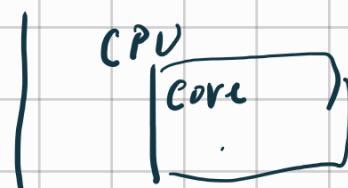
```
[sum0=sum1=0;
for (int i=0; i<1000; i+=2)
{
    sum0+=sum[i];
    sum1+=sum[i+1];
}
sum = sum0 + sum1;]
```



add



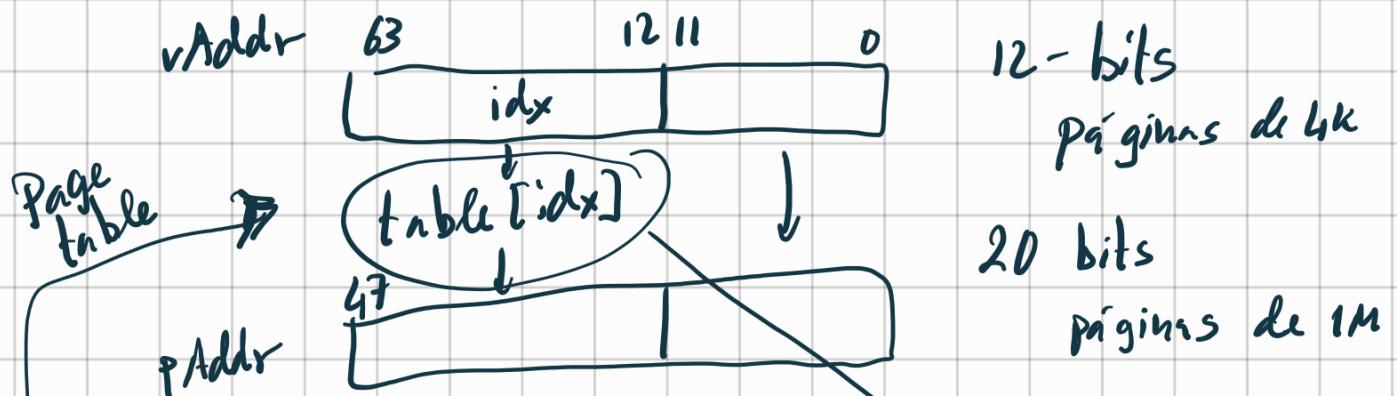
Memória virtual



MMU

memory management unit

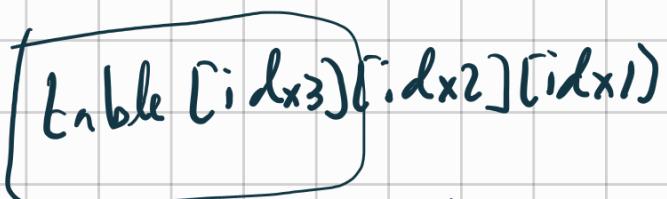
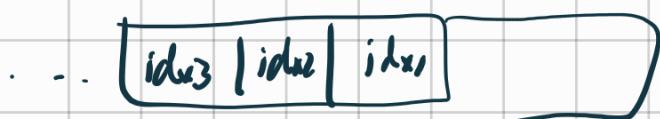
Memória virtual → Memória física
 virtud physical



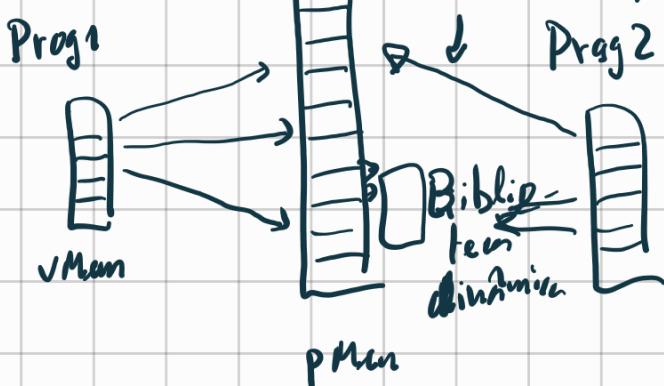
Cache
 TLB → Cadu entradas



A validade (vários níveis)



memória partilhada



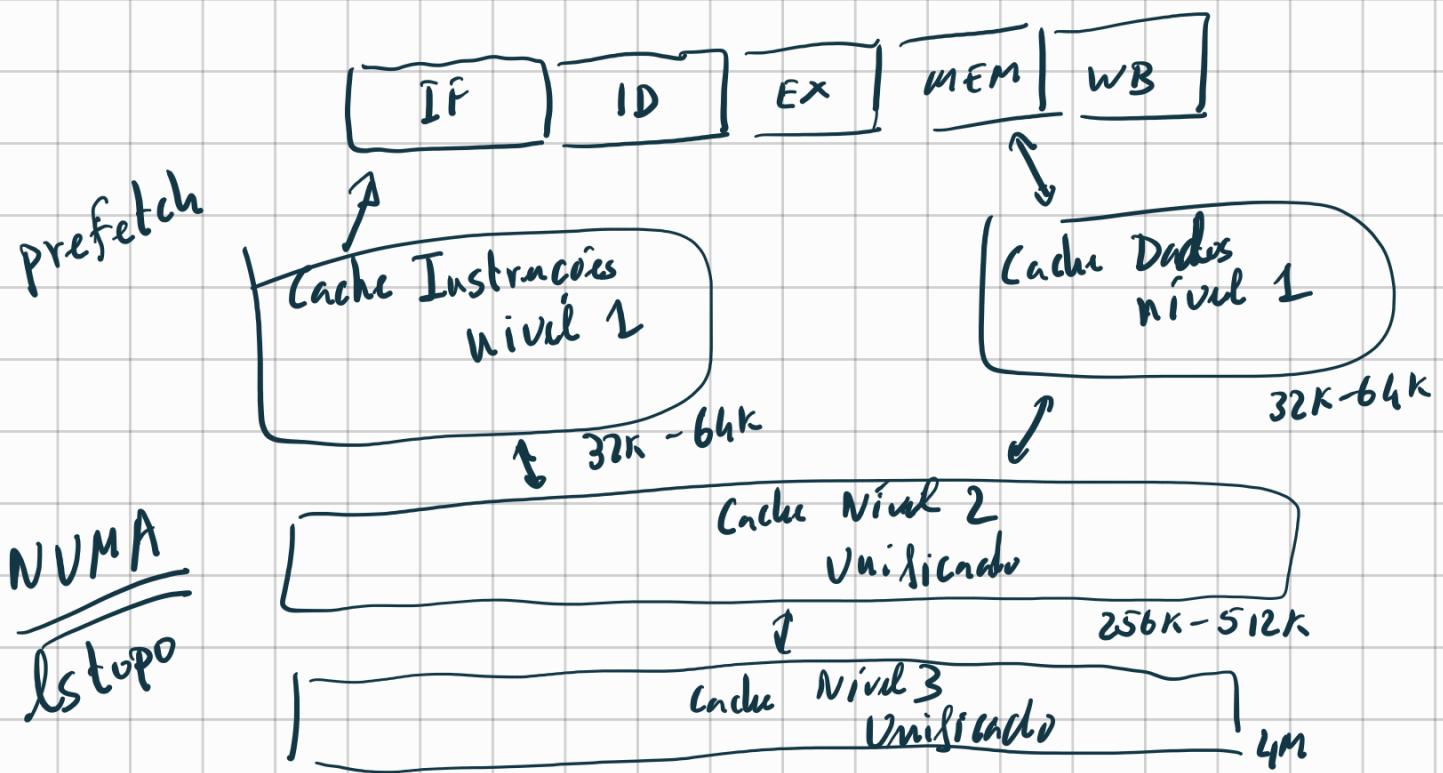
fragmentação da memória

mmap



2024-10-07

- x Caches
- I D (branch prediction)
- x pthreads
- x OpenMP

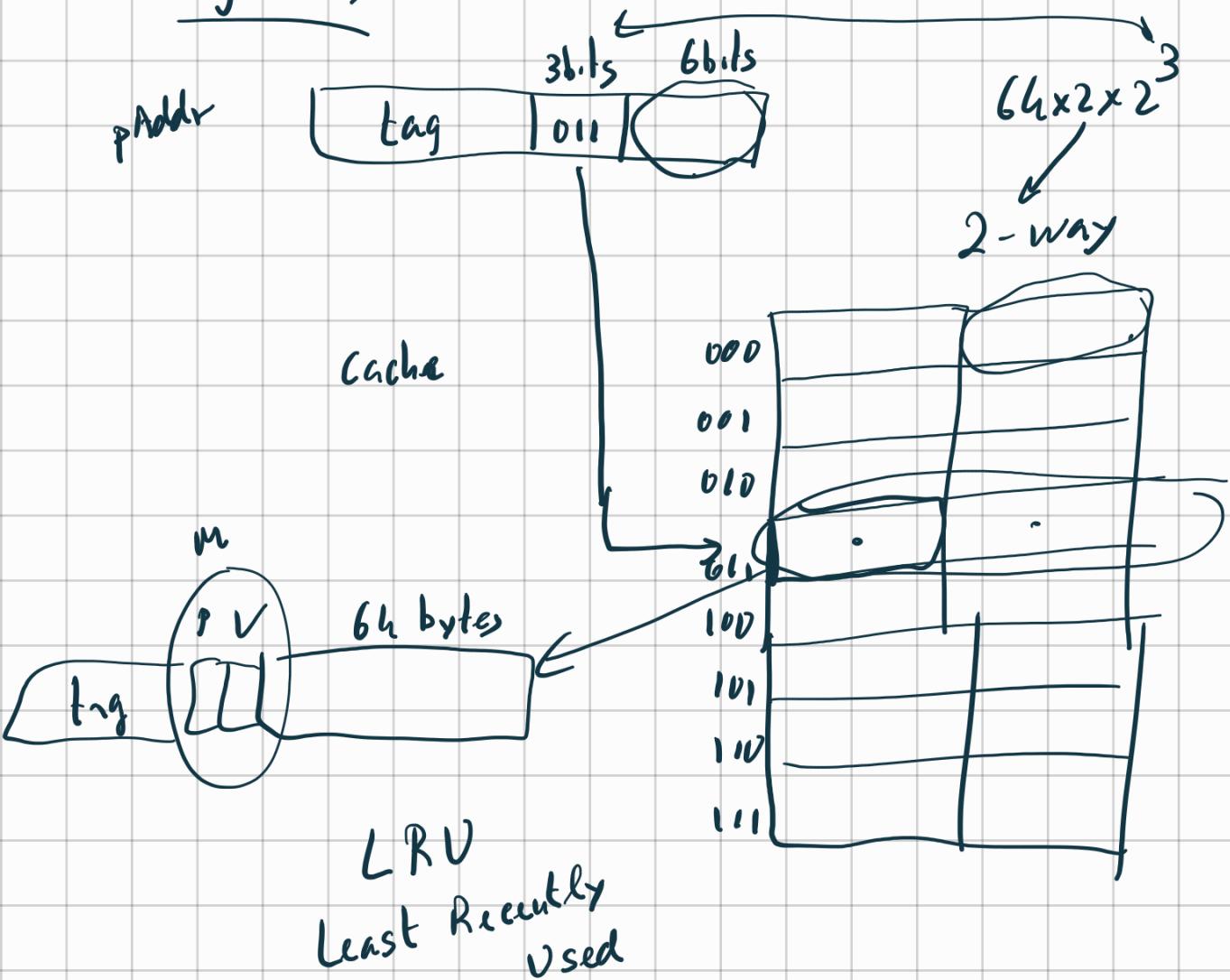


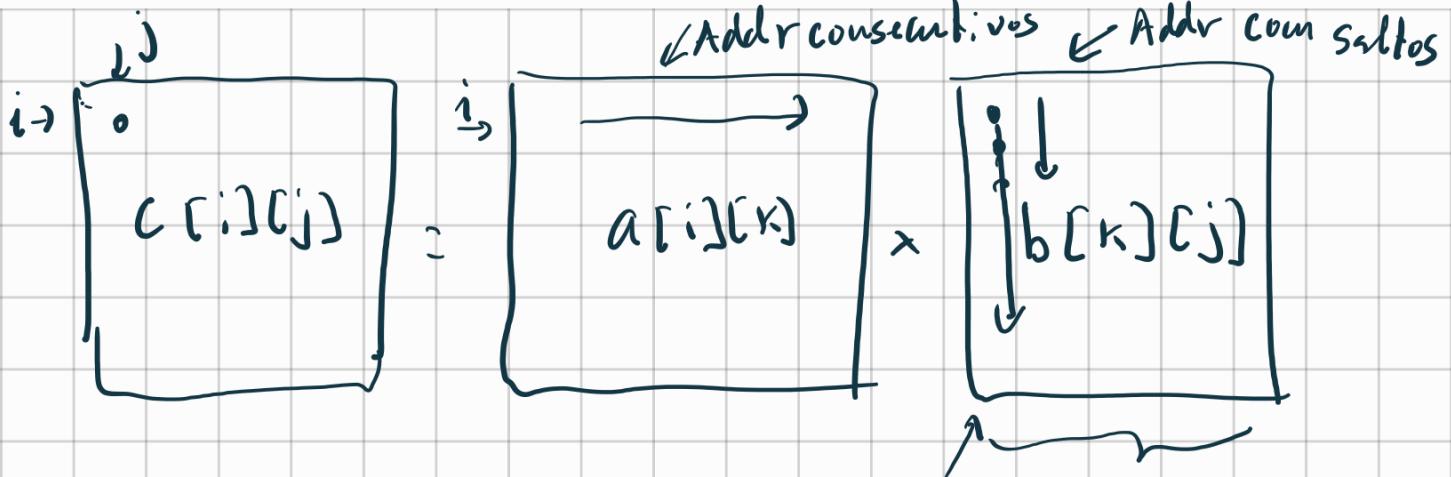
MOSI coerenza do cache

```
if ( $x > 0$ ) ...  
| y = a;  
else  
| y = b  
|| y = ( $x > 0$ ) ? a : b;
```

move $a \rightarrow y$
move $b \rightarrow y$

Organizzazione





$$c_{ij} = \sum_k a_{ik} b_{kj}$$

Problema se
for uma potênci
de 2

