

Scheduling data hazards example

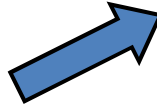
Avoiding stalls:

Reordering instructions for
following program

Code:

a = b + c

d = e - f



Unscheduled code:

```
Lw    R1, b
Lw    R2, c
Add   R3, R1, R2      interlock
Sw    a, R3
Lw    R1, e
Lw    R2, f
Sub   R4, R1, R2      interlock
Sw    d, R4
```



Scheduled code:

```
Lw    R1, b
Lw    R2, c
Lw    R5, e      extra reg. needed!
Add   R3, R1, R2
Lw    R2, f
Sw    a, R3
Sub   R4, R5, R2
Sw    d, R4
```