read\_data\_2

PC\_in

call

alu\_op

sw\_data

Pipe to Pipe

PC\_update\_done

PC\_src

PC\_branch

alu\_result

alu\_src

ALU

PC\_Update

Flags\_reg

set\_flags

updated\_flags

alu\_done

ret\_wb

PC\_stack\_pointer

PC\_in

branch

call

read\_data\_1

read\_data\_2

sign\_ext

shift

load\_half\_imm