*{Code|Data}xref:[base]+[offset][up arrow| down arrow][type of ref.]*

*ordinary flow* (o) if it represents the sequential flow from one instruction to another

*jump flow (j) if it*is triggered from an unconditional and conditional branch

*call flow (p)*indicating the transfer of control to a target function.If the cross reference refers to data it could be for reading data (r) or for writing data (w).

Word = 2 Bytes

Long = 4 Bytes

Immediate Data: Byte immediate data is located in instruction code. Word or longword

immediate data is not input via instruction codes but is stored in a memory table. The memory

table is accessed by an immediate data transfer instruction (MOV) using the PC relative

addressing mode with displacement.

The address of the immediate data is accessed by @(disp, PC).

Absolute Address: When data is accessed by absolute address, the value already in the absolute

address is placed in the memory table. Loading the immediate data when the instruction is

executed transfers that value to the register and the data is accessed in the indirect register

addressing mode.

high and low multiply and accumulate registers (MACH and MACL)

procedure register (PR)

and the program counter (PC) = instruction pointer

GBR Global Base Register

VBR Vector Base Register

SR Status Register

The **multiply and accumulate** registers store the results of multiply and multiply and accumulate operations.

The **procedure register** stores the return address from the subroutine procedure.

The **program counter** indicates the address of the program executing and controls the flow of the processing

@ is indirect addressing, relative to register or memory location

#immediate

Displacement = disp

MOV Rm,Rn Rm → Rn

MOV.W @(disp, PC),Rn (disp × 2 + PC) → sign extension → Rn

MOV.L @(disp, PC),Rn (disp × 4 + PC) → Rn

ADD Rm,Rn Rm + Rn → Rn

SUB Rm,Rn Rn - Rm → Rn

EXTU.B Rm, Rn Zero-extend Rm from byte → Rn

AND Rm,Rn Rn & Rm → Rn

STS FPUL,Rn FPUL → Rn

MUL.L Rm,Rn Rn × Rm → MAC

NOT Rm,Rn ~Rm → Rn

LDS Rm,MACL Rm → MACL

CMP/HS Rm,Rn When unsigned and Rn ≥Rm,