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# Do we have a standard format or document for assembly expression? #573

Open

DavidYuSi5 opened this issue on Aug 27, 2020 · 2 comments

DavidYuSi5 commented on Aug 27, 2020

For example, instruction ADD  
in the manual: "ADD performs the addition of rs1 and rs2."

is it

```
ADD rd, rs1, rs2
```

or

```
ADD rd, rs2, rs1
```

or

```
ADD rs1, rs2, rd
```

Another case, for floating point instruction with rounding mode,

```
FADD.S rd, rs1, rs2 ## DYN
```

```
FADD.S rd, rs1, rs2, rne ## nearest-even
```

this expression is from binutils, not in the manual.

Lots of assembly code in manual seems like there IS a format, if you know MIPS first.

In the vector extension, all instructions are introduced with assembly example.

Also, I have the book "The RISC-V Reader".

The appendix A is very helpful, provide very specific information.

```
ADD rd, rs1, rs2
```

```
x[rd] = x[rs1] + x[rs2]
```

```
AMOADD.W rd, rs2, (rs1)
```

```
x[rd] = AMO32(M[x[rs1]] + x[rs2])
```

```
BLE rs1, rs2, offset
```

```
if (rs1 <=s rs2) pc += sext(offset) ## correct one should be x[rs1] <=s x[rs2]
```

sorear commented on Aug 27, 2020

Contributor

It was decided a while ago that assembly syntax was out of scope for the ISA manual (even though the ISA manual uses assembly examples in several places), see <https://github.com/riscv/riscv-asm-manual> for the (very incomplete) documentation for the mips-derived syntax used by binutils and llvm. See also [#540](#).

**nick-knight** commented on Aug 27, 2020

Contributor

My understanding is that this is the goal of <https://github.com/riscv/riscv-asm-manual> , although it appears there's a lot of work to be done on that project. Your contributions would be appreciated!

#### Assignees

No one assigned

#### Labels

None yet

#### Projects

None yet

#### Milestone

No milestone

#### Development

No branches or pull requests

#### 3 participants

