



# Auto Vector Mode



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# Background

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- ▶ **There are special auxiliary instructions in the ISA, which affect the behavior of subsequent instructions.**
  - ▶ SPARC64 sxar instruction etc.



# Purpose

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- ▶ Conventionally, in the case where the programmer explicitly describes the instruction described in the Background is a general code notation,
- ▶ Consider an approach to limitlessly reduce explicit instructions



# Method

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- ▶ Overload all instructions (operations)
- ▶ Outputs the corresponding auxiliary instruction with all instructions (operations)
- ▶ After code generation is complete, "thin out" the same kind of auxiliary instruction
- ▶ That's ALL!
- ⌘ In addition, by parsing cases even across basic blocks, you can reduce auxiliary instructions



# Expected effect

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- ▶ Effective utilization of instruction cache (I \$)
- ▶ Improve code descriptivity
- ▶ Improve portability to environment (environment) when auxiliary instructions are not required



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Thanks.

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