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author={Baldassin, A. and Centoducatte, P.C. and Rigo, S.},
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title={Extending the ArchC language for automatic generation of
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abstract={ In this paper, we extend the ArchC language with new
constructs to describe the assembly language syntax and operand
encoding of an instruction set architecture. Based on the extended
language we have created a tool which can automatically generate
assemblers. Our tool uses the GNU Binutils framework in order to
produce the assembler, generating the architecture dependent files
necessary to retarget the GNU assembler and the Binutils libraries.
We have generated assemblers for the MIPS-I and SPARC-V8
architectures based on ArchC models using our tool. The assemblers
generated for both architectures were compared with the default gas
assemblers for a set of files taken from the MiBench benchmark, and
the ELF object files generated by each pair of assemblers were
equivalent in both cases.},
keywords={ ArchC language; Binutils library; ELF object file; GNU
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