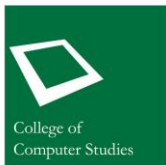


Assembly Language Lecture Series: RV32I: System instructions

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System instructions

| System instructions | | | | |
|---------------------|--------|-------|------|--|
| ECALL | EBREAK | FENCE | HINT | |

Opcode:

| | 31-20 | 19-15 | 14-12 | 11-7 | 6-0 |
|--------|----------------|-------|-------|-------|---------|
| ECALL | 0000 0000 0000 | 00000 | 000 | 00000 | 1110011 |
| EBREAK | 0000 0000 0001 | 00000 | 000 | 00000 | 1110011 |

Miscellaneous instructions

- The ECALL instruction is used to make a service request to the execution environment (i.e., similar to *system* or *int* instructions in other ISA).
- The EBREAK instruction is used to return control to a debugging environment.
- FENCE instruction is used to order device I/O and memory accesses as viewed by other RISC-V harts and external devices or coprocessors.
- HINT instructions are usually used to communicate performance hints to the microarchitecture.