

| | | example | atomic/1 | compound/1 | compound_name_arity/3 | compound_name_arguments/3 | functor/3 | =../2 (univ) |
|----------|---------|----------|----------|------------|---|---|---|--|
| atomic | | foo | true | false | "ERROR: Type error" on disassembly: compound_name_arity(foo,X,Y). | "ERROR: Type error" on disassembly: compound_name_arguments(foo,X,Y). | functor(foo,foo,0). | foo =.. [foo] |
| compound | arity 0 | foo() | false | true | compound_name_arity(foo(),foo,0). | compound_name_arguments(foo(),foo,[]). | "ERROR: Domain error" on disassembly: functor(foo(),X,Y). | "ERROR: Domain error" on disassembly: foo() =.. L. |
| | arity 1 | foo(1) | false | true | compound_name_arity(foo(1),foo,1). | compound_name_arguments(foo(1),foo,[1]). | functor(foo(1),foo,1). | foo(1) =.. [foo,1] |
| | arity 2 | foo(1,2) | false | true | compound_name_arity(foo(1,2),foo,2). | compound_name_arguments(foo(1,2),foo,[1,2]). | functor(foo(1,2),foo,2). | foo(1,2) =.. [foo,1,2] |

Approach for disassembly:

- 1) Check whether it is a compound term with compound/1
- 2) Disassemble with compound_name_arity/3 or compound_name_arguments/3

Approach for assembly:

- Always use compound_name_arity/3 to construct a skeleton, e.g. foo(_3958, _3960)
- Always use compound_name_arguments/3 to construct an parameter-adorned compound term

These must throw domain error on disassembly of arity 0 compound terms because there is no way to distinguish a dissembled "foo" and "foo()": Disassembly would become a surjective mapping.