

## A DISCOURSE PATTERNS CATALOG

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**Pattern code:** NP\_BE\_BINARY\_VALUE

**Description:** A data element is assigned a binary value (e.g., *true/false, on/off, out/inout...*) by using an auxiliary verb.

**Rule:** [data] [be] [binary-value]

[data] ∈ {NP}

[be] ∈ {*be, allow, remain, show*}

[binary-value] ∈ {JJ, VVN, \$binary-word}

[\$binary-word] ∈ {*true/false, on/off, out/inout...*}

**Example:** [Background mode] [is] [on] (from jedit-5.6)

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**Pattern code:** NP\_BE\_VALUE

**Description:** A data element is assigned a concrete value by using an auxiliary verb.

**Rule:** [data] [be] [value]

[data] ∈ {NP}

[be] ∈ {*be, allow, remain, show*}

[value] ∈ {NP, CD}

**Example:** [Default maxwait] [is] [3 minutes] (from apache-ant-1.10.6)

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**Pattern code:** NP\_CD\_TO\_CD

**Description:** A data element is assigned a range of numeric values. The lower bound and upper bound are connected by a preposition/conjunction pair (e.g. *from...to, between...and*).

**Rule:** [data] [num][to][num] | [data] [from] [num][to][num]

[data] ∈ {NP}

[from] ∈ {*from, between*}

[num] ∈ {CD}

[to] ∈ {*to, and*}

[num2] ∈ {CD}

**Example1:** [South latitude extent] [-90] [to] [90] (from swarm-2.8.11)

**Example2:** [hour] [from] [00] [to] [23] (from joda\_time-2.10.3)

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**Pattern code:** NP\_OF\_VALUE

**Description:** A data element is assigned a concrete value by using an preposition “*of*”. The value appears after the data element.

**Rule:** [data] of [value]

[data] ∈ {NP}

[value] ∈ {NP, CD}

**Example:** [RSAM period] of [10 seconds] (from swarm-2.8.11)

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**Pattern code:** SET\_NP\_TO\_BINARY\_VALUE

**Description:** A data element is assigned a binary value (e.g., *true/false, on/off, out/inout...*) by using a phrase composed of an auxiliary verb and a preposition. The data element is positioned between the auxiliary verb and the preposition.

**Rule:** [set] [data] [to] [binary-value] | [data] [to] [binary-value]

[set] ∈ {*set, define, mark*}

[data] ∈ {NP}

[to] ∈ {*to, as, =*}

[binary-value] ∈ {JJ, VVN, \$binary-word}

[\$binary-word] ∈ {*true/false, on/off, out/inout...*}

**Example:** [set] [the usefile attribute] [to] [false] (from apache-ant-1.10.6)

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**Pattern code:** NP\_SET\_TO\_BINARY\_VALUE

**Description:** A data element is assigned a binary value (e.g., *true/false, on/off, out/inout...*) by using a phrase composed of an auxiliary verb and a preposition. The value assignment phrase is positioned after the data element.

**Rule:** [data] [set to] [binary-value] | [data] [be] [set to] [binary-value]

[data] ∈ {NP}

[be] ∈ {*is, are, can be*}

[set to] ∈ {*set to, mark as, require to be*}

[binary-value] ∈ {JJ, VVN, \$binary-word}

[\$binary-word] ∈ {*true/false, on/off, out/inout...*}

**Example:** [ignoreContents] [is] [set to] [true] (from apache-ant-1.10.6)

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**Pattern code:** CD\_NP

**Description:** A data element is assigned a numeric value. The data element appears directly after the value.

**Rule:** [num] [data]

[num] ∈ {CD}

[data] ∈ {NP}

**Example:** [100] [edits] (from jedit-5.6pre0)

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**Pattern code:** NP\_COMP\_NP**Description:** Compare the value of a data element with the value of another data element using the defined comparison words or symbols.**Rule:** [data] [compare to] [data]

[data] ∈ {NP}

[compare to] ∈ {<=, >=, =, *above*, *before*, *below*, *greater than*, *lower than*, *newer than*, *greater than or equal to*, *less than*, *more than*, *less than or equal to*, *at or before*, *equal to or earlier than*, *equal to or later than*, *equal to or greater than*, *equal to or less than*, *the same as...*}**Example:** [signal] [above] [corner frequency] (from swarm-2.8.11)**Pattern code:** SET\_NP\_TO\_VALUE**Description:** A data element is assigned a concrete value by using a phrase composed of an auxiliary verb and a preposition. The data element is positioned between the auxiliary verb and the preposition.**Rule:** [set] [data] [to] [value] | [data] [to] [value][set] ∈ {*set*, *define*, *mark*}

[data] ∈ {NP}

[to] ∈ {*to*, *as*, =}

[value] ∈ {NP, CD}

**Example:** [set] [the frequency axis] [to] [log mode] (from swarm-2.8.11)**Pattern code:** NP\_IN\_VALUESSET**Description:** A categorical data element is assigned a finite set of values by using a preposition or a symbol.**Rule:** [data] [in] [valueset]

[data] ∈ {NP}

[in] ∈ {*in*, *include*, *be*, ":", "(", " ", "-"}  
[valueset]: {[value]...[value]}

[value] ∈ {NP, CD}

**Example:** [Encoding considerations] [:] ["7bit", "8bit", or "binary"] (from apache-httpcomponents-4.5.9)**Pattern code:** NP\_SET\_TO\_VALUE**Description:** A data element is assigned a concrete value by using a phrase composed of an auxiliary verb and a preposition. The value assignment phrase is positioned after the data element.**Rule:** [data] [set to] [value] | [data] [be] [set to] [value]

[data] ∈ {NP}

[be] ∈ {*is*, *are*, *can be*}[set to] ∈ {*set to*, *mark as*, *require to be*}

[value] ∈ {NP, CD}

**Example:** [the fileIndex attribute] [is] [set to] ["min"] (from log4j-2.13.3)**Pattern code:** NP\_IF\_BINARY\_VALUE**Description:** Check whether the value of a data element equals a binary value (e.g., *true/false*, *on/off*, *out/inout...*) with the conjunction "if". The conjunction "if" is positioned after the data element and before its binary value.**Rule:** [data], if [binary-value]

[data] ∈ {NP}

[binary-value] ∈ {JJ, VVN, \$binary-word}

[\$binary-word] ∈ {*true/false*, *on/off*, *out/inout...*}**Example:** ["pages" field], if [set] (from jabref-5.0)**Pattern code:** NP\_EXIST**Description:** Check whether a data element exists by using the word "exist".**Rule:** [data], exist

[data] ∈ {NP}

**Example:** [output file], exists (from apache-ant-1.10.6)**Pattern code:** VALUE\_FOR\_NP**Description:** A data element is assigned a concrete value by using an preposition "for". The value appears before a data element.**Rule:** [value] for [data]

[value] ∈ {NP, CD}

[data] ∈ {NP}

**Example:** [NULL] for [the content type] (from apache-httpcomponents-4.5.9)**Pattern code:** NP\_CD**Description:** A data element is assigned a numeric value. The value appears directly after a data element.**Rule:** [data] [num]

[data] ∈ {NP}

[num] ∈ {CD}

**Example:** [the status code] [501] (from apache-httpcomponents-4.5.9)