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Lingwistyka Matematyczna: Laboratorium

Projekt 5

Gramatyka w notacji BNF, rozszerzonej o zawartość opcjonalną [] i powtórzenia {} z notacji ENBF:

<S> ::= <mExpression>{; <mExpression>}[;]

<mExpression> ::= <bExpression>{<operator><bExpression>}

<bExpression> ::= (<expression>)|<expression>

<expression> ::= [-]<fraction>{<operator><fraction>}

<fraction> ::= <integer>[.<digit0>{<digit0>}]

<integer> ::= 0|<digit1>{<digit0>}

<digit0> ::= 0|1|2|3|4|5|6|7|8|9

<digit1> ::= 1|2|3|4|5|6|7|8|9

<operator> ::= +|-|/|\*|^

Wyprowadzenie wyrażenia regularnego metodą podstawiania:

<operator> -> (?:\+|\-|\/|\\*|\^)f

<digit1> -> [1-9]

<digit0> -> \d

<integer> -> (?:0|[1-9](?:\d)\*)

<fraction> -> (?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?

<expression> -> (?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)

(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*

<bExpression> -> (?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*)

<mExpression> -> (?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*)(?:(?:\+|\-|\/|\\*|\^)(?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*))\*

<S> -> (?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*)(?:(?:\+|\-|\/|\\*|\^)(?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*))\*

(?:\; (?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*)(?:(?:\+|\-|\/|\\*|\^)(?:\((?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*\)|(?:\-)?(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?(?:(?:\+|\-|\/|\\*|\^)(?:0|[1-9](?:\d)\*)(?:\.(?:\d)+)?)\*))\*)\*(?:\;)?