

Handbók fyrir X

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1 Inngangur

2 Notkun og uppsetning

3 Málfræði

3.1 Frumeiningar málsins

3.1.1 Athugasemdir

3.1.2 Lykilorð

3.2 Mállýsing

4 Merking málsins

4.1 Gildi

4.2 Breytur

4.3 Merking segða

4.3.1 null-segð

4.3.2 true-segð

4.3.3 false-segð

4.3.4 Heiltölusegð

4.3.5 Fleytitölusegð

4.3.6 Stafsegð

4.3.7 Strengsegð

4.3.8 Listasegð

4.3.9 return-segð

4.3.10 Röksegðir

4.3.11 Kallsegð

4.3.12 Tvíundaraðgerðir

4.3.13 Einundaraðgerðir

4.3.14 if-segð

4.3.15 while-segð

4.4 Föll og forrit

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5 Til hliðsjónar ... hendið þessu eftir notkun

XXX

5.1 Mállýsing með syntax pakkanum í LaTeX

Hér er eilítil mállýsing sniðsett með hjálp `syntax` pakkans sem nota má í \LaTeX . Þið getið notað þessa aðferð, ef það hentar ykkur, til að skilgeina ykkar forritunarmál.

Hér er EBNF fyrir málið okkar.

$$\begin{aligned}\langle parameter_list \rangle &::= \langle parameter_list \rangle \text{ ', ' } \langle NAME \rangle \\ &| \langle NAME \rangle \\ &| \epsilon\end{aligned}$$
$$\begin{aligned}\langle program \rangle &::= \langle program \rangle \langle function \rangle \\ &| \langle function \rangle\end{aligned}$$
$$\langle function \rangle ::= \text{ 'fun' } \langle name_or_op \rangle \text{ ' (' } \langle parameter_list \rangle \text{ ') ' ' = ' } \langle body \rangle$$
$$\begin{aligned}\langle name_or_op \rangle &::= \langle NAME \rangle \\ &| \langle op \rangle\end{aligned}$$
$$\begin{aligned}\langle body \rangle &::= \text{ ' { ' } } \langle stmt_list \rangle \text{ ' } \\ &| \langle expr \rangle\end{aligned}$$
$$\begin{aligned}\langle stmt_list \rangle &::= \langle stmt_list \rangle \text{ ' ; ' } \langle stmt \rangle \\ &| \langle stmt \rangle \\ &| \epsilon\end{aligned}$$

$$\begin{aligned}\langle \textit{stmt} \rangle &::= \text{'return'} \langle \textit{expr} \rangle \\ &| \langle \textit{expr} \rangle \\ &| \langle \textit{decl} \rangle \\ &| \langle \textit{whileexpr} \rangle \\ &| \langle \textit{for_loop} \rangle\end{aligned}$$

$$\langle \textit{decl} \rangle ::= \text{'var'} \langle \textit{variavle_list} \rangle$$

$$\begin{aligned}\langle \textit{variavle_list} \rangle &::= \langle \textit{variavle} \rangle \\ &| \langle \textit{variavle_list} \rangle \text{' , ' } \langle \textit{variavle} \rangle\end{aligned}$$

$$\langle \textit{variable} \rangle ::= \langle \textit{NAME} \rangle \langle \textit{initialiser} \rangle$$

$$\begin{aligned}\langle \textit{initialiser} \rangle &::= \text{'=' } \langle \textit{expr} \rangle \\ &| \epsilon\end{aligned}$$

$$\begin{aligned}\langle \textit{op} \rangle &::= \text{'op1'} \\ &| \text{'op2'} \\ &| \text{'op3'} \\ &| \text{'op4'} \\ &| \text{'op5'} \\ &| \text{'op6'} \\ &| \text{'op7'}\end{aligned}$$

$$\begin{aligned}\langle \textit{expr} \rangle &::= \text{'(' } \langle \textit{expr} \rangle \text{')' } \\ &| \langle \textit{NAME} \rangle \text{' (' } \langle \textit{optexprs} \rangle \text{')' } \\ &| \langle \textit{NAME} \rangle \text{'=' } \langle \textit{expr} \rangle \\ &| \langle \textit{NAME} \rangle \\ &| \langle \textit>LITERAL} \rangle \\ &| \langle \textit{ifexpr} \rangle \\ &| \langle \textit{condexpr} \rangle \\ &| \langle \textit{matchexpr} \rangle \\ &| \langle \textit{unop} \rangle \\ &| \langle \textit{binop} \rangle\end{aligned}$$

$$\begin{aligned}\langle \textit{optexprs} \rangle &::= \langle \textit{optexprs} \rangle \text{' , ' } \langle \textit{expr} \rangle \\ &| \langle \textit{expr} \rangle \\ &| \epsilon\end{aligned}$$

$$\langle ifexpr \rangle ::= \text{'if'} \langle expr \rangle \langle body \rangle \\ | \text{'if'} \langle expr \rangle \langle body \rangle \langle ifrest \rangle$$

$$\langle ifrest \rangle ::= \text{'else'} \langle body \rangle \\ | \text{'else'} \langle ifexpr \rangle$$

$$\langle condexpr \rangle ::= \text{'cond'} \text{'{' } \langle conds \rangle \langle optbody \rangle \text{'}'}$$

$$\langle conds \rangle ::= \langle cond \rangle \langle conds \rangle \\ | \epsilon$$

$$\langle cond \rangle ::= \langle expr \rangle \text{'fat_arrow'} \langle body \rangle$$

$$\langle matchexpr \rangle ::= \text{'match'} \langle expr \text{'{' } \langle matches \rangle \langle optbody \rangle \text{'}'}$$

$$\langle matches \rangle ::= \langle match \rangle \langle matches \rangle \\ | \epsilon$$

$$\langle match \rangle ::= \langle expr \rangle \text{'fat_arrow'} \langle body \rangle$$

$$\langle unop \rangle ::= \langle op \rangle \langle expr \rangle \\ | \text{'not'} \langle expr \rangle$$

$$\langle binop \rangle ::= \langle expr \rangle \text{'and'} \langle expr \rangle \\ | \langle expr \rangle \text{'or'} \langle expr \rangle \\ | \langle expr \rangle \text{'op1'} \langle expr \rangle \\ | \langle expr \rangle \text{'op2'} \langle expr \rangle \\ | \langle expr \rangle \text{'op3'} \langle expr \rangle \\ | \langle expr \rangle \text{'op4'} \langle expr \rangle \\ | \langle expr \rangle \text{'op5'} \langle expr \rangle \\ | \langle expr \rangle \text{'op6'} \langle expr \rangle \\ | \langle expr \rangle \text{'op7'} \langle expr \rangle$$

$$\langle whileexpr \rangle ::= \text{'while'} \langle expr \rangle \langle body \rangle$$

$$\langle for_loop \rangle ::= \text{'for'} \text{'(' } \langle optdecl \rangle \text{';' } \langle expr \rangle \text{';' } \langle optexpr \rangle \text{'') } \langle body \rangle$$

5.2 Ýmis málrit með hjálp `syntax` pakkans í LaTeX

Hér eru nokkur málrit skilgreind með hjálp `syntax` pakkans. Breytið þessu eftir þörfum, eða notið aðrar aðferðir ef það hentar ykkur betur.

Finna má upplýsingar um `syntax` pakkann á vefnum¹.

Takið eftir að ráðlegt er að gera einhverjar breytingar hér, þó ekki væri til annars en að gera textalýsingar á merkingu einfaldari með tilliti til forgangs ýmissa mál fyrirbæra.

$\langle parameter_list \rangle$:



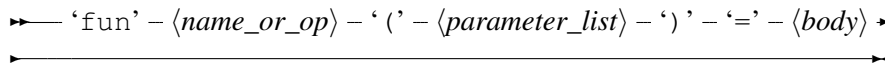
5.2.1 Forrit

$\langle program \rangle$:

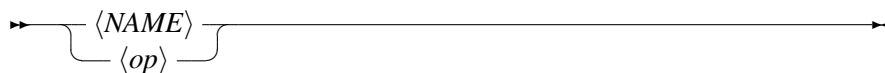


5.2.2 Föll

$\langle function \rangle$:

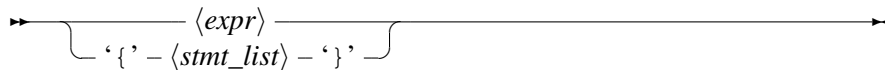


$\langle name_or_op \rangle$:



5.2.3 Stofnar

$\langle body \rangle$:



¹<http://www.tug.org/texlive/Contents/live/texmf-dist/doc/latex/mdwtools/syntax.pdf>

$\langle stmt_list \rangle$:

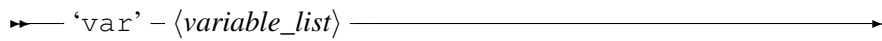


$\langle stmt \rangle$:

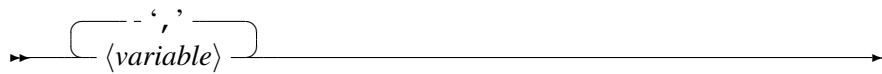


5.2.4 Skilgreiningar

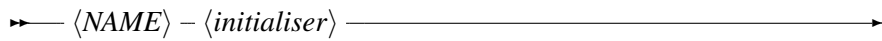
$\langle decls \rangle$:



$\langle variable_list \rangle$:



$\langle variable \rangle$:



$\langle initialiser \rangle$:

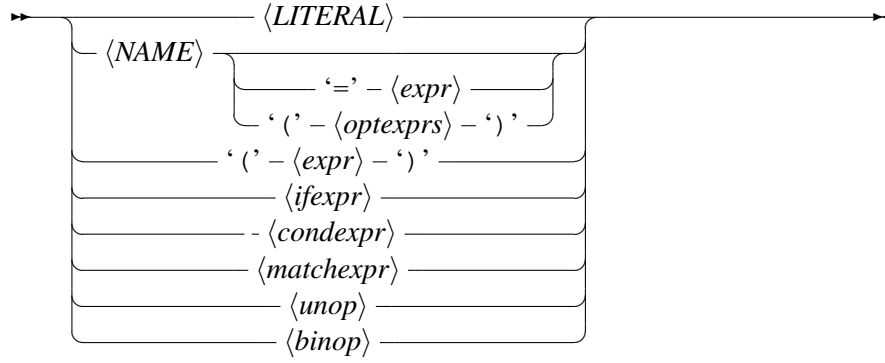


$\langle op \rangle$:



5.2.5 Segðir

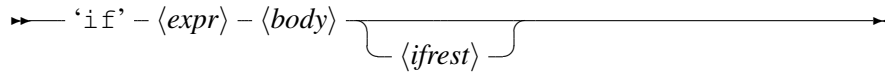
$\langle expr \rangle$:



$\langle optexprs \rangle$:



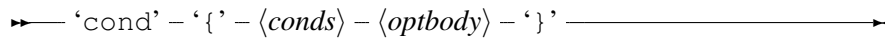
$\langle ifexpr \rangle$:



$\langle ifrest \rangle$:



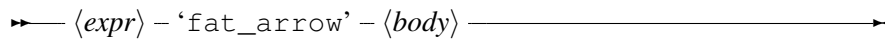
$\langle condexpr \rangle$:



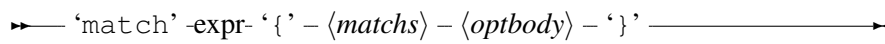
$\langle conds \rangle$:



$\langle cond \rangle$:



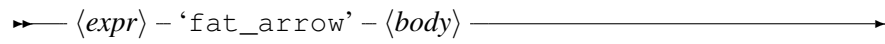
$\langle matchexpr \rangle$:



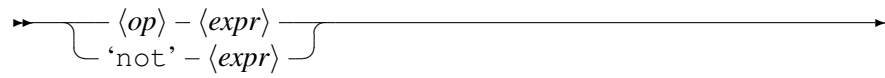
$\langle matches \rangle$:



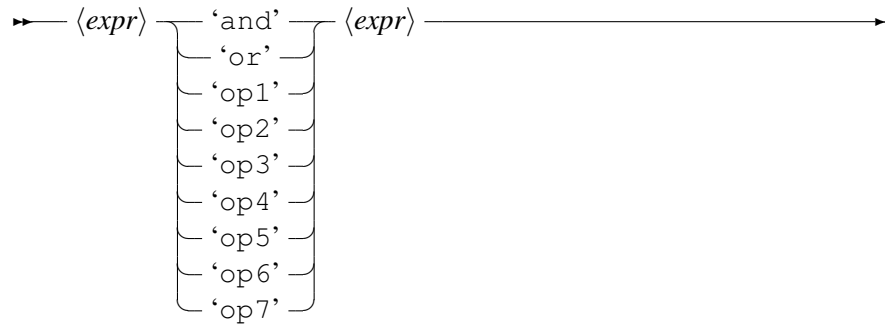
$\langle match \rangle$:



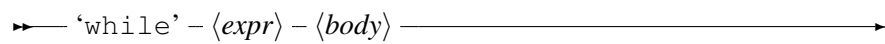
$\langle unop \rangle$:



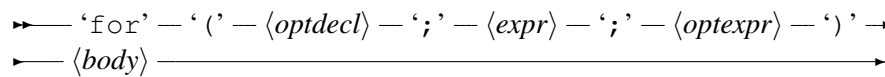
$\langle binop \rangle$:



$\langle whileexpr \rangle$:



$\langle for_loop \rangle$:



5.2.6 Annar möguleiki

ég veit ekki hvað við eigjum að stja inn hérna.

$\langle expr \rangle$:



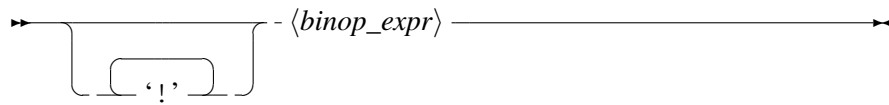
$\langle or_expr \rangle$:



$\langle and_expr \rangle$:



$\langle not_expr \rangle$:



$\langle binop_expr \rangle$:



$\langle small_expr \rangle$:

