

Interpret jazyka IFJ16

Vysoké Učení Technické v Brně
Fakulta Informačních Technologíí

14.12.2016

1 Úvod

2 Štruktúra

- Syntaktická a sémantická analýza
- Interpret

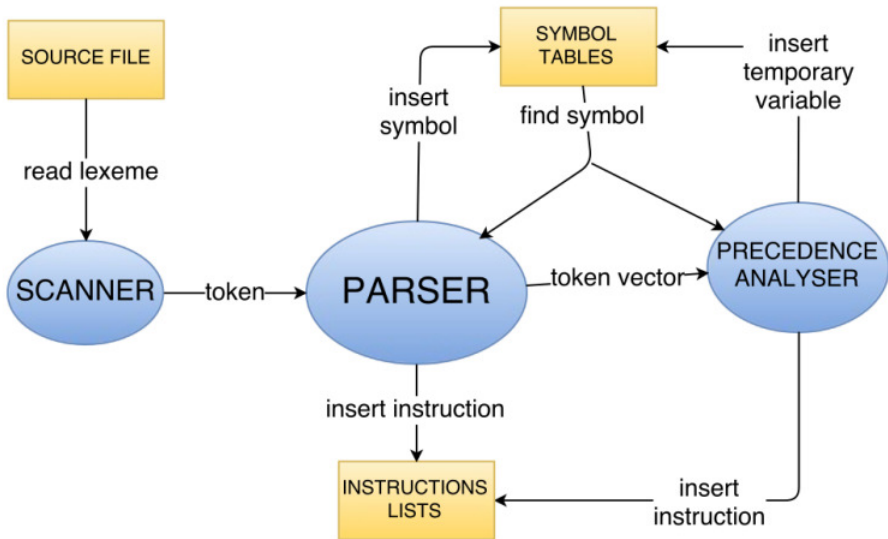
3 Algoritmy

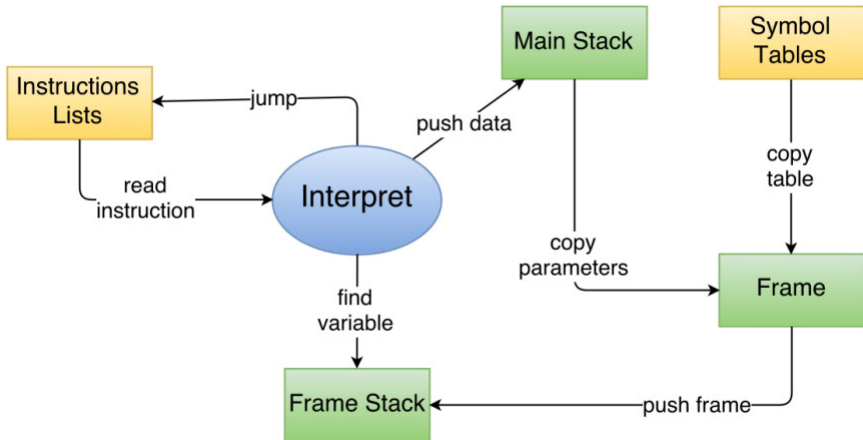
- Tabuľka symbolov
- Heap sort
- Knuth-Morris-Pratt

4 Testovanie

Úvod

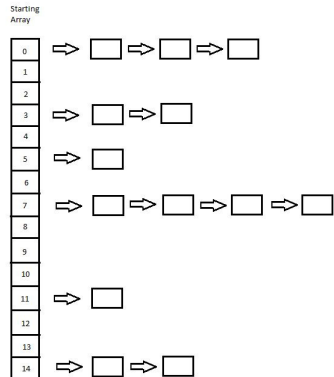
- tokeny
- rekurzívny zostup
- analýza zdola hore
- trojadresný kód





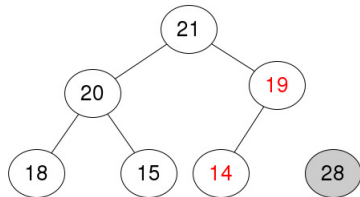
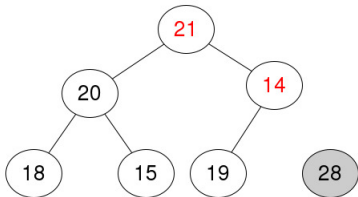
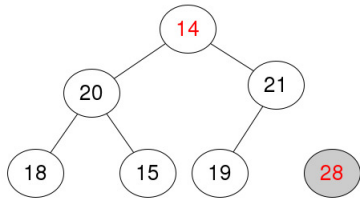
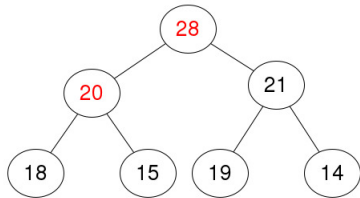
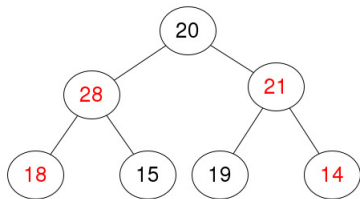
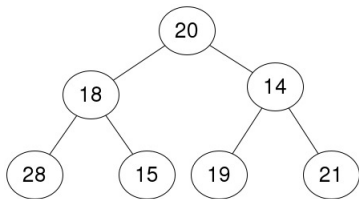
Tabuľka symbolov

- globálna
 - ▶ triedy
 - ▶ funkcie
 - ▶ statické premenné
 - ▶ pomocné premenné
- lokálna
 - ▶ lokálne premenné
 - ▶ parametre funkcií



Heap sort

- presiatie hromady
- výmena koreňa s najpravejším – narušenie hromady
- presiatie porušenej hromady bez najpravejšieho uzlu



Knuth-Morris-Pratt algoritmus

- vyhľadanie podreťazca v reťazci
- *fail vector*
- zložitosť $O(m + n)$

Knuth-Morris-Pratt

index	1	2	3	4	5	6	7
substring	A	B	A	B	A	C	B
fail vector	0	1	1	2	3	4	1

Knuth-Morris-Pratt

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ABCCABABACB

ABABACB

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ABCCABABACB
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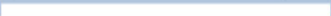










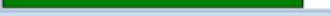






Knuth-Morris-Pratt

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substring	A	B	A	B	A	C	B
fail vector	0	1	1	2	3	4	1

ABCCABABACB
ABABACB

Testovanie

- detekcia chýb, interpretácia
- ekvivalenčné triedy
- regresné testy

File	Lines	
<u>builtins.c</u>		84.2 %
<u>debug.c</u>		0.0 %
<u>globals.c</u>		35.7 %
<u>ial.c</u>		100.0 %
<u>ilist.c</u>		100.0 %
<u>instruction.c</u>		89.5 %
<u>interpret.c</u>		99.0 %
<u>main.c</u>		60.0 %
<u>parser.c</u>		87.8 %
<u>precedence_analyser.c</u>		100.0 %
<u>precedence_analyser_stack.c</u>		59.3 %
<u>precedence_rules.c</u>		91.5 %
<u>precedence_table.c</u>		100.0 %
<u>scanner.c</u>		93.8 %
<u>semantic_analyser.c</u>		94.4 %
<u>stack.c</u>		96.3 %
<u>symbol.c</u>		90.6 %
<u>token.c</u>		100.0 %
<u>token_vector.c</u>		86.5 %

Zdroje

- Devtome, http://www.devtome.com/doku.php?id=linked_lists
- GNU, <http://gcovr.com/>