

Reverse Polish to Infix notation (10 points)

The kattis task [Reverse Polish to Infix notation \(easy\)](#) is solved and passed on Kattis. The solution code is in the file ReversePolish.java.

Big-O Quiz (15 points)

Function	$F(n)$	\sim	$O()$
A	$2^n + 1$	$\sim 2^n$	$O(n)$
B	$2n$	$\sim 2n$	$O(n)$
C	$(n^2 - n)/2$	$\sim n^2 - n$	$O(n^2)$
D	$2 + (n^2 + n)/2$	$\sim n^2 + n$	$O(n^2)$
E	1	~ 1	$O(1)$
F	$n/2$	$\sim n/2$	$O(n)$
G	$2n + 2$	$\sim 2n$	$O(n)$
H	$\log_2 n$	$\sim \log_2 n$	$O(\log_2 n)$
I	$n * \log_2 n$	$\sim n * \log_2 n$	$O(n * \log_2 n)$
J	$n * 2(\log_2 n) - n$	$\sim n * 2(\log_2 n) - n$	$O(n * 2(\log_2 n) - n)$
K	\sqrt{n}	$\sim \sqrt{n}$	$O(\sqrt{n})$
L	$\lfloor \log_2 n + 1 \rfloor$	$\sim \lfloor \log_2 n \rfloor$	$O(\log_2 n)$
M	$\sum_{i=0}^n \frac{n!}{i!}$		$O(n!^n)$
N	$\log_2 n$ (tilfeldig avrunning)	$\sim \log_2 n$	$O(\log_2 n)$
O	$(3^{n-1} - 1)/2$	$\sim 3^{n-1}$	$O(3^n)$
P	$n * \log_2(n + 1) + n$	$\sim n * \log_2(n) + n$	$O(n * \log_2(n) + n)$
Q	$\lfloor \log_2(n + 1) \rfloor$	$\sim \lfloor \log_2(n + 1) \rfloor$	$O(\log_2 n)$
R	$1 + 2\lfloor \log_2 n \rfloor + n$	$\sim 2\lfloor \log_2 n \rfloor + n$	$O(n)$

Union Find (15 points)

a) answer in the file FakeboolQuickFind.java

b) answer in the file FakeboolUnionFind.java

c) you can use it, but since i used a compression methode, i dont think it would have bin faster, maybe if you combined them.

Sortable Linked List (30 points)

The troll book task is in the file trollBook.java