

Data Structures

Stack Homework 3

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Problem #1: Infix to Postfix (geeksforgeeks OJ)

- Extend our code to consider the following:
 - Instead of only including single digits, we should also handle individual lowercase or uppercase letters
 - We don't need to consider unary operators (e.g. -9 / negative 9) or multiple digits numbers (e.g. 123)
 - Operators: ^ * / + -
 - ()
- Inputs:
 - $4^3^2 \Rightarrow 432^{\wedge\wedge}$
 - $5+4^3^2-9 \Rightarrow 5432^{\wedge\wedge}+9-$
 - $a+b*(c^d-e)^(f+G*h)-i \Rightarrow abcd^{\wedge}e-fGh^{*+^{\wedge}+}i-$
 - $1+2^3^4*5-6 \Rightarrow 1234^{\wedge\wedge}5^{*+}6-$

Problem #2: Postfix Evaluation

- Implement the function: `def evalaute_postfix(postfix)`
 - It takes a string and return a float number for its evalaution
- Input \Rightarrow Output
 - $52/ \Rightarrow 2.5$
 - $12+3+ \Rightarrow 6$
 - $123*+ \Rightarrow 7$
 - $23*4+ \Rightarrow 10$
 - $135*+72/- \Rightarrow 12.5$
 - $432^^ \Rightarrow 262144$

“Acquire knowledge and impart it to the people.”

“Seek knowledge from the Cradle to the Grave.”