Task 1

Complete the tutorials One and Two here.

Task 2

We usually write operators between operands (infix notation):

$$6 \times 4$$

In this notation you need to explicitly state the order of application of operators, using parentheses and/or defining operator precedence conventions. For instance, without any such convention:

$$6 \times 4 + 3$$

is ambiguous between a complex operation yielding 27 and another complex operation yielding 42. You need to use parentheses to indicate which is intended.

The prefix notation (or the Polish Notation) invented by the mathematician Łukasiewicz places an operator before its operands rather than between them. For this notation, the following equivalences hold:

$$\begin{aligned} 6 \times 4 &\equiv \times\ 6\ 4 \\ (6 \times 4) + 3 &\equiv +\ \times\ 6\ 4\ 3 \\ 6 \times (4 + 3) &\equiv \times\ 6\ +\ 4\ 3 \\ (18/6) - (4 \times 81) &\equiv -\ /\ 18\ 6\ \times\ 4\ 81 \end{aligned}$$

Convert the following operations to prefix notation:

(a) $(25 + 3) \times (4 - (12 + 5))$

(b) $(3 \times (7 + 21)) - ((3 \times 7) + 21)$

Convert the following operations to infix notation:

(a) $+\ 7\ -\ 9\ /\ 2\ 3$

(b) $\times\ -\ 9\ +\ -\ 3\ 42\ \times\ 7\ 5\ 2$

Type your answers to your chosen text editor; make sure it highlights the matching parentheses.

Send screenshots to Fırat before the class on Feb 28.