

33 Lecture - CS402

Important Subjective

1. What is the Polish notation?

Answer: Polish notation, also known as prefix notation, is a way of writing arithmetic expressions in which the operators are placed before their operands.

Who introduced the Polish notation?

Answer: Polish notation was introduced by the Polish mathematician Jan Lukasiewicz in the 1920s.

What are the advantages of using Polish notation?

Answer: The advantages of using Polish notation are that it eliminates the need for parentheses and removes ambiguity in the order of operations.

How do you evaluate an expression in Polish notation?

Answer: To evaluate an expression in Polish notation, you start from the left and read the expression from right to left. When you encounter an operator, you apply it to the two most recent operands in the stack.

What is the reverse Polish notation?

Answer: Reverse Polish notation (RPN), also known as postfix notation, is a way of writing arithmetic expressions in which the operators are placed after their operands.

What are the advantages of using reverse Polish notation?

Answer: The advantages of using reverse Polish notation are that it eliminates the need for parentheses and removes ambiguity in the order of operations, just like Polish notation.

What is the difference between Polish notation and reverse Polish notation?

Answer: The main difference between Polish notation and reverse Polish notation is the placement of the operators: Polish notation places the operators before the operands, while reverse Polish notation places the operators after the operands.

What is the role of a stack in evaluating expressions in Polish notation?

Answer: A stack is used to store the operands as they are encountered while reading the expression. When an operator is encountered, the two most recent operands are popped from the stack, the operation is performed, and the result is pushed back onto the stack.

Can all expressions be written in Polish notation or reverse Polish notation?

Answer: Yes, all expressions can be written in Polish notation or reverse Polish notation.

What is the complexity of evaluating expressions in Polish notation and reverse Polish notation?

Answer: The complexity of evaluating expressions in Polish notation and reverse Polish notation is $O(n)$, where n is the length of the expression. This makes them very efficient for evaluating expressions in computer programs.