

# Lecture Notes in Computer Science

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{ program 11.4
  conversion to postfix form }

Program postfix(input,output);

var ch : char;

procedure find;
begin repeat read(ch)
      until (ch<>' ') and not eoln(input)
end;

procedure expression;
var op : char;

  procedure term;

    procedure factor;
    begin if ch='(' then
          begin find; expression; {ch = ' '}
          end else write(ch);
          find
    end; {factor}

    begin factor;
          while ch='*' do
            begin find; factor; write('*')
            end
          end; {term}

  begin term;
        while (ch='+')or(ch='-') do
          begin op := ch; find; term; write(op)
          end
        end; {expression}

  begin find;
        repeat write(' ');
              expression;
              writeln
        until ch='.'
  end.

ab+cd-*
abc*d-
ab+c*d-
abcd-*+
aa*a*a*
bcdca*a**b**a+

```

The binary tree is a data structure that is naturally defined in recursive terms and processed by recursive algorithms. It consists of a finite set of nodes that is either empty or consists of a node (the root) with two disjoint binary trees,