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#include <iostream>

#include <stack>

#include <string>

int precedence(char op)

{

if (op == '^')

return 3;

else if (op == '\*' || op == '/' || op == '%')

return 2;

else if (op == '+' || op == '-')

return 1;

else

return 0;

}

std::string infixToPostfix(const std::string& expn)

{

std::stack<char> stk;

std::string output;

for (char ch : expn)

{

if (std::isdigit(ch))

{

output += ch;

}

else

{

switch (ch)

{

case '+':

case '-':

case '\*':

case '/':

case '%':

case '^':

while (!stk.empty() && precedence(ch) <= precedence(stk.top()))

{

output += " ";

output += stk.top();

stk.pop();

}

stk.push(ch);

output += " ";

break;

case '(':

stk.push(ch);

break;

case ')':

while (!stk.empty() && stk.top() != '(')

{

output += " ";

output += stk.top();

stk.pop();

}

stk.pop(); // Pop the from stack

break;

}

}

}

while (!stk.empty())

{

output += " ";

output += stk.top();

stk.pop();

}

return output;

}

int main()

{

std::string expn = "10+((3))\*5/(16-4)";

std::string value = infixToPostfix(expn);

std::cout << "Infix Expn: " << expn << std::endl;

std::cout << "Postfix Expn: " << value << std::endl;

return 0;

}