Since any subgroup of a solvable group is solvable, G cannot be solvable.

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FLORIDA STATE UNIVERSITY

THE ENUMERATION OF LABELED TREES BY DEGREES

BY JOHN RIORDAN

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1. In [1] Cayley showed that the total number of (free) trees with labeled vertices $v_1, \cdots, v_n$ is n^{n-2} by exhibiting a correspondence between them and the terms of $(v_1+ \cdots +v_n)^{n-2}v_1v_2 \cdots v_n$. This note shows that the correspondence determines the trees of given degree specification (the degree of a point is the number of lines incident to it; the degree specification is $(k_1, k_2, \cdots)$ with k_i the number of points of degree i). More precisely, if $T(n; k_1, k_2, \cdots)$ is the number of labeled trees with degree specification $(k_1, k_2, \cdots)$ it will be shown that

$$
\begin{aligned}
T_n(x_1, x_2, \cdots) &= \sum T(n; k_1, k_2, \cdots)x_1^{k_1} x_2^{k_2} \cdots \\
&= x_1^n Y_{n-2}(fx_2x_1^{-1}, \cdots, fx_{n-1}x_1^{-1})
\end{aligned}
\tag{1}
$$

with $f^k \equiv f_k = (n)_k = n(n-1) \cdots (n-k+1)$, and Y_n the Bell multivariable polynomial.

2. In symmetric function notation Cayley's expression is $(1)^{n-2}(1^n)$ on n variables. The multinomial theorem in symmetric function form [2, p. 43] is

$$
(1)^n = \sum \frac{n!}{1!^{k_1} \cdots n!^{k_n}} (1^{k_1}2^{k_2} \cdots n^{k_n}), \qquad k_1 + 2k_2 + \cdots + nk_n = n.
$$

Hence, on n variables