

CSC356: Generative Processes and Formal Systems

Little Musical CFG/CFL Assignment

Ace DeSiena - Feb 2015

melody $\xrightarrow{1}$ bar bar bar bar bar bar bar bar
 $\xrightarrow{4}$ bar3 bar bar bar bar bar bar bar
 $\xrightarrow{8}$ (3 p3 d3) bar bar bar bar bar bar bar
 $\xrightarrow{12}$ (3 pitch pitch pitch d3) bar bar bar bar bar bar bar
 $\xrightarrow{27}$ (3 g pitch pitch d3) bar bar bar bar bar bar bar
 $\xrightarrow{24}$ (3 g d pitch d3) bar bar bar bar bar bar bar
 $\xrightarrow{25}$ (3 g d e d3) bar bar bar bar bar bar bar
 $\xrightarrow{16}$ (3 g d e h q q) bar bar bar bar bar bar bar
 $\xrightarrow{3}$ (3 g d e h q q) bar2 bar bar bar bar bar bar
 $\xrightarrow{7}$ (3 g d e h q q) (2 p2 d2) bar bar bar bar bar bar
 $\xrightarrow{11}$ (3 g d e h q q) (2 pitch pitch d2) bar bar bar bar bar bar
 $\xrightarrow{24}$ (3 g d e h q q) (2 d pitch d2) bar bar bar bar bar bar
 $\xrightarrow{26}$ (3 g d e h q q) (2 d f d2) bar bar bar bar bar bar
 $\xrightarrow{15}$ (3 g d e h q q) (2 d f h h) bar bar bar bar bar bar
 $\xrightarrow{5}$ (3 g d e h q q) (2 d f h h) bar4 bar bar bar bar bar
 $\xrightarrow{9}$ (3 g d e h q q) (2 d f h h) (4 p4 d4) bar bar bar bar bar
 $\xrightarrow{13}$ (3 g d e h q q) (2 d f h h) (4 pitch pitch pitch pitch d4) bar bar bar bar bar
 $\xrightarrow{25}$ (3 g d e h q q) (2 d f h h) (4 e pitch pitch pitch d4) bar bar bar bar bar
 $\xrightarrow{25}$ (3 g d e h q q) (2 d f h h) (4 e e pitch pitch d4) bar bar bar bar bar
 $\xrightarrow{23}$ (3 g d e h q q) (2 d f h h) (4 e e c pitch d4) bar bar bar bar bar
 $\xrightarrow{24}$ (3 g d e h q q) (2 d f h h) (4 e e c d d4) bar bar bar bar bar
 $\xrightarrow{19}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) bar bar bar bar bar
 $\xrightarrow{2}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) bar1 bar bar bar bar
 $\xrightarrow{6}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) (1 p1 d1) bar bar bar bar
 $\xrightarrow{10}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) (1 pitch d1) bar bar bar bar
 $\xrightarrow{28}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) (1 a d1) bar bar bar bar
 $\xrightarrow{14}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) (1 a w) bar bar bar bar
 $\xrightarrow{3}$ (3 g d e h q q) (2 d f h h) (4 e e c d q q q q) (1 a w) bar2 bar bar bar

$\xrightarrow{3} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ p2 d2}) \text{ bar bar bar}$
 $\xrightarrow{11} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ pitch pitch d2}) \text{ bar bar}$
 bar
 $\xrightarrow{25} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e pitch d2}) \text{ bar bar bar}$
 $\xrightarrow{29} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b d2}) \text{ bar bar bar}$
 $\xrightarrow{15} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) \text{ bar bar bar}$
 $\xrightarrow{5} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) \text{ bar4 bar bar}$
 $\xrightarrow{9} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ p4 d4}) \text{ bar}$
 bar
 $\xrightarrow{13} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ pitch pitch}$
 pitch pitch d4) bar bar
 $\xrightarrow{24} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d pitch}$
 pitch pitch d4) bar bar
 $\xrightarrow{28} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a pitch}$
 pitch d4) bar bar
 $\xrightarrow{26} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f pitch}$
 d4) bar bar
 $\xrightarrow{23} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c d4})$
 bar bar
 $\xrightarrow{19} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c q q}$
 q q) bar bar
 $\xrightarrow{4} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c q q q}$
 q) bar3 bar
 $\xrightarrow{8} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c q q q}$
 q) (3 p3 d3) bar
 $\xrightarrow{12} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c q q}$
 q q) (3 pitch pitch pitch d3) bar
 $\xrightarrow{23} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c q q}$
 q q) (3 c pitch pitch d3) bar
 $\xrightarrow{28} (3 \text{ g d e h q q}) (2 \text{ d f h h}) (4 \text{ e e c d q q q q}) (1 \text{ a w}) (2 \text{ e b h h}) (4 \text{ d a f c q q}$
 q q) (3 c a pitch d3) bar

$$\begin{aligned}
& \xrightarrow{27} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q} \\
& \text{q q}) (3\text{ c a g d3}) \text{ bar} \\
& \xrightarrow{17} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q} \\
& \text{q q}) (3\text{ c a g q h q}) \text{ bar} \\
& \xrightarrow{4} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q q} \\
& \text{q}) (3\text{ c a g q h q}) \text{ bar3} \\
& \xrightarrow{4} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q q} \\
& \text{q}) (3\text{ c a g q h q}) (3\text{ p3 d3}) \\
& \xrightarrow{4} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q q} \\
& \text{q}) (3\text{ c a g q h q}) (3\text{ pitch pitch pitch d3}) \\
& \xrightarrow{26} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q} \\
& \text{q q}) (3\text{ c a g q h q}) (3\text{ f pitch pitch d3}) \\
& \xrightarrow{29} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q} \\
& \text{q q}) (3\text{ c a g q h q}) (3\text{ f b pitch d3}) \\
& \xrightarrow{25} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q} \\
& \text{q q}) (3\text{ c a g q h q}) (3\text{ f b e d3}) \\
& \xrightarrow{25} (3\text{ g d e h q q}) (2\text{ d f h h}) (4\text{ e e c d q q q q}) (1\text{ a w}) (2\text{ e b h h}) (4\text{ d a f c q q} \\
& \text{q q}) (3\text{ c a g q h q}) (3\text{ f b e h q q})
\end{aligned}$$