

EECS 510 Final Project

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1. General Description

blah blah blah

testing doing this locally i guess if it compiles, it compiles

testing again

2. Grammar for the Language

Move Name for each State (Paired together for general buttons/functionality):

S is the initial variable for the beginning of a combo

| State | Name |
|-----------|-------------------|
| S | Neutral State |
| q_{ss} | Side Smash |
| q_{os1} | Overhead Smash I |
| q_{os2} | Overhead Smash II |
| q_u | Upswing |
| q_{bb1} | Big Bang I |
| q_{bb2} | Big Bang II |
| q_{bb3} | Big Bang III |
| q_{bb4} | Big Bang IV |
| q_{bbf} | Big Bang Finisher |
| q_{sb1} | Big Bang Finisher |
| q_{sb2} | Big Bang Finisher |
| q_{sb3} | Big Bang Finisher |
| q_{c1} | Charge |
| q_{c2} | Charge |
| q_{c3} | Charge |
| q_{csb} | Charge |
| q_{cu} | Charge |
| q_{cbb} | Charge |
| q_{cfu} | Charge |
| q_{mc1} | Mighty Charge |
| q_{mc2} | Mighty Charge |
| q_{mcu} | Mighty Charge |
| q_{mcs} | Mighty Charge |

$$\begin{aligned}
S &\rightarrow yq_{os1} \mid bq_{bb1} \mid r_2q_{c1} \mid l_2 \mid (ly)(L+Y) \mid \lambda \\
q_{ss} &\rightarrow yq_{os2} \mid bq_b b1 \mid r_2q_{c1} \mid (yb)q_{sb1} \mid tS \\
q_{os1} &\rightarrow yq_{os2} \mid bq_b b1 \mid r_2q_{c1} \mid (yb)q_{sb1} \mid tS \\
q_{os2} &\rightarrow yq_u \mid bq_b b1 \mid r_2q_{c1} \mid (yb)q_{sb1} \mid tS \\
q_u &\rightarrow bq_b b1 \mid r_2q_{c1} \mid (yb)q_{sb1} \mid (r_2yb)q_{mc1} \mid tS \\
q_{bb1} &\rightarrow bq_{bb2} \mid r_2q_{c1} \mid tS \\
q_{bb2} &\rightarrow bq_{bb3} \mid r_2q_{c1} \mid tS \\
q_{bb3} &\rightarrow bq_{bb4} \mid r_2q_{c1} \mid tS \\
q_{bb4} &\rightarrow bq_{bbf} \mid (r_2yb)q_{mc1} \mid r_2q_{c1} \mid tS \\
q_{bbf} &\rightarrow r_2q_{c1} \mid (yb)q_{sb1} \mid tS \\
q_{sb1} &\rightarrow tq_{sb2} \mid yS? \\
q_{sb2} &\rightarrow tq_{sb3} \mid yS? \\
q_{sb3} &\rightarrow tS? \mid yS? \\
q_{c1} &\rightarrow tq_{c2} \mid r_2q_{csb} \mid yq_{csb} \mid bq_{cs1} \mid (l_2r_1)q_{fbe} \\
q_{c2} &\rightarrow tq_{c3} \mid r_2q_{csu} \mid yq_{csu} \mid bq_{cs2} \mid (l_2r_1)q_{fbe} \\
q_{c3} &\rightarrow r_2q_{cbb} \mid yq_{cbb} \mid bq_{cs3} \mid (yb)q_{sb1} \mid (l_2r_1)q_{fbe} \\
(\bar{R}_2 + Y + B) &\rightarrow (yb)(Y+B) \mid y(Y_1) \mid b(B_1) \mid r_2(\bar{R}_2) \\
(\bar{L}_2) &\rightarrow y(Y_1) \mid b(B_1) \mid r_2(\bar{R}_2) \mid aA \mid r_1R_1 \\
(\bar{R}_1) &\rightarrow (\bar{R}_2 + Y + B) \mid bB \mid r_2(\bar{R}_2) \\
(\bar{R}_2) &\rightarrow (\bar{R}_2 + Y + B) \mid y \mid b \mid (l_1r_1)(\bar{R}_1) \\
(\bar{R}_2) &\rightarrow (\bar{R}_2 + Y + B) \mid y \mid b \mid (l_1r_1)(\bar{R}_1)
\end{aligned}$$

3. Automaton

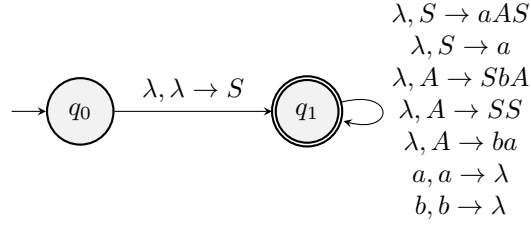


Figure 1: Automaton for language

4. Data Structure

5. Testing