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}	Spinning Bludgeon (Time 0)
q_{sb2}	Spinning Bludgeon (Time 1)
q_{sb3}	Spinning Bludgeon (Time 2)
q_{c1}	Charge (Time 0)
q_{c2}	Charge (Time 1)
q_{c3}	Charge (Time 2)
q_{csb}	Charged Side Blow
q_{cu}	Charged Upswing
q_{cbb}	Charged Big Bang
q_{cfu}	Charged Follow-up
q_{mc1}	Mighty Charge (Time 0)
q_{mc2}	Mighty Charge (Time 1)
q_{mcu}	Mighty Charge Upswing
q_{mcs}	Mighty Charge Slam
q_{fben}	Focus Blow: Earthquake (No Wound)
q_{fbew1}	Focus Blow: Earthquake (Wound Option 1)
q_{fbew2}	Focus Blow: Earthquake (Wound Option 2)

$$S \to yq_{os1} \,|\, bq_{bb1} \,|\, r_2q_{c1} \,|\, l_2q_{fm} \,|\, (ly)q_{ss} \,|\, \lambda$$
$$q_{ss} \to yq_{os2} \,|\, bq_bb1 \,|\, r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_{os1} \to yq_{os2} \,|\, bq_bb1 \,|\, r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_{os2} \to yq_u \,|\, bq_bb1 \,|\, r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_u \to bq_bb1 \,|\, r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, (r_2yb)q_{mc1} \,|\, tS$$
$$q_{bb1} \to bq_{bb2} \,|\, r_2q_{c1} \,|\, tS$$
$$q_{bb2} \to bq_{bb3} \,|\, r_2q_{c1} \,|\, tS$$
$$q_{bb3} \to bq_{bb4} \,|\, r_2q_{c1} \,|\, tS$$
$$q_{bb4} \to bq_{bbf} \,|\, (r_2yb)q_{mc1} \,|\, r_2q_{c1} \,|\, tS$$
$$q_{bbf} \to r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_{sb1} \to tq_{sb2} \,|\, yS?$$
$$q_{sb2} \to tq_{sb3} \,|\, yS?$$
$$q_{sb3} \to tS? \,|\, yS?$$
$$q_{c1} \to tq_{c2} \,|\, r_2q_{csb} \,|\, yq_{csb} \,|\, bq_{cs1} \,|\, (l_2r_1)q_{fben} \,|\, (l_2r_1)q_{fbew1}$$
$$q_{c2} \to tq_{c3} \,|\, r_2q_{csu} \,|\, yq_{csu} \,|\, bq_{cs2} \,|\, (l_2r_1)q_{fben} \,|\, (l_2r_1)q_{fbew1}$$
$$q_{c3} \to r_2q_{cbb} \,|\, yq_{cbb} \,|\, bq_{cs3} \,|\, (yb)q_{sb1} \,|\, (l_2r_1)q_{fben} \,|\, (l_2r_1)q_{fbew1}$$
$$q_{csb} \to yq_{cfu} \,|\, bq_{ss} \,|\, r_2q_{c1} \,|\, tS$$
$$q_{cu} \to yq_{cfu} \,|\, bq_{bb1} \,|\, r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_{cbb} \to r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, yq_{os1} \,|\, bq_{bb1} \,|\, (ly)q_{ss} \,|\, tS$$
$$q_{cfu} \to yq_{os1} \,|\, bq_{bb1} \,|\, r_2q_{c1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_{mc1} \to tq_{mc2} \,|\, l_2q_{mcu} \,|\, yq_{mcu}$$
$$q_{mc2} \to l_2q_{mcs} \,|\, yq_{mcs}$$
$$q_{mcu} \to yq_{os1} \,|\, (ly)q_{ss} \,|\, bq_{bb1} \,|\, (yb)q_{sb1} \,|\, tS$$
$$q_{mcs} \to (yb)q_{sb1} \,|\, yq_{os1} \,|\, (ly)q_{ss} \,|\, bq_{bb1} \,|\, tS$$
$$q_{fm} \to yq_{os1} \,|\, bq_{bb1} \,|\, r_2q_{c1} \,|\, r_1q_{fben} \,|\, r_1q_{fbew1} \,|\, (ly)q_{ss}$$
$$q_{fben} \to bq_{bb1} \,|\, r_2q_{c1} \,|\, tS$$
$$q_{fbew1} \to r_2q_{c1} \,|\, tq_{fbew2}$$
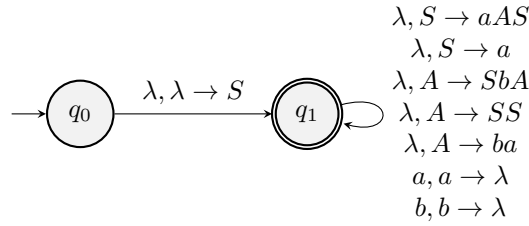$$q_{fbew2} \to r_2q_{c1} \,|\, yq_{os2} \,|\, tS$$

3. Automaton

Figure 1: Automaton for language

4. Data Structure

5. Testing