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PS7: Baxter Robot Demo

I made two playfiles that make the robot mimic playing a guitar. The first file (for the right arm) is guitar\_r.jsp, and the second file (for the left arm) is guitar\_l.jsp. As you can see in the movie, the robot first warms up or initializes to prepare the viewer, then moves into position. The right hand “sweeps” back and forth with the right hand to “hit the strings” every second. The left hand moves to one location, then another location, then back to the first, then to a final third location, each time for about 4 seconds, before repeating the entire process again (so taking about 16 seconds).

The current playfiles have the robot do this for 60 seconds total, repeating the same motions after the warmup movements. I found that the best way to pick these points was to test and check movements one at a time. Thankfully my playfiles had a lot of repetition.

The code for the left arm is:

-0.2, 0.55, 2.5, 2.24, 1.6, -1.56, 0.96, 1.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 3

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 5

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 5.5

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 9

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 9.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 13

0.35, 0.09, -2.1, 1.1, -0.1, 1.95, 0.5, 13.5

0.35, 0.09, -2.1, 1.1, -0.1, 1.95, 0.5, 17

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 17.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 21

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 21.5

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 25

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 25.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 29

0.35, 0.09, -2.1, 1.1, -0.1, 1.95, 0.5, 29.5

0.35, 0.09, -2.1, 1.1, -0.1, 1.95, 0.5, 33

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 33.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 37

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 37.5

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 41

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 41.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 45

0.35, 0.09, -2.1, 1.1, -0.1, 1.95, 0.5, 45.5

0.35, 0.09, -2.1, 1.1, -0.1, 1.95, 0.5, 49

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 53

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 53.5

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 57

0.35, 0.1, -1.9, 1.1, 0, 2, 1.1, 57.5

0.35, 0.1, -1.6, 1.1, -0.5, 2, 1, 60

The code for the right arm is

-0.2, 0.55, 2.5, 2.24, 1.6, -1.56, 0.96, 1.5

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 3

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 4

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 5

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 6

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 7

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 8

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 9

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 10

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 11

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 12

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 13

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 14

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 15

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 15

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 16

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 17

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 18

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 19

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 20

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 21

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 22

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 23

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 24

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 25

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 26

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 27

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 28

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 29

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 30

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 31

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 32

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 33

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 34

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 35

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 36

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 37

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 38

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 39

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 40

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 41

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 42

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 43

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 44

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 45

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 46

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 47

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 48

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 49

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 50

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 51

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 52

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 53

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 54

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 55

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 56

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 2, 57

-0.3, 0.5, 1.3, 1.2, -0.5, 1.7, 0.5, 58