C:\Users\yaels\anaconda3\envs\Gymmy\python.exe "C:\Users\yaels\יעל פרוייקט גמר\zedcheck\TrainingNew.py"

pygame 2.5.2 (SDL 2.28.3, Python 3.11.9)

Hello from the pygame community. https://www.pygame.org/contribute.html

screen start

CAMERA INITIALIZATION

ROBOT INITIALIZATION

CAMERA START

MP INITIALIZATION

Training: start exercises

MP START

ROBOT START

CAMERA: Exercise hello\_waving start

CAMERA: Exercise hello\_waving done

TRAINING: Exercise raise\_arms\_forward\_turn\_ball start

CAMERA: Exercise raise\_arms\_forward\_turn\_ball start

ROBOT: Exercise raise\_arms\_forward\_turn\_ball start

167.82 119.85

95.49 92.09

left shoulder L\_shoulder 30.258877 -25.388613 2003.2229

right shoulder R\_shoulder -285.80563 -44.988914 1949.806

316.0645

first angle mean: 167.82

first angle stdev: 0.0

second angle mean: 95.49

second angle stdev: 0.0

148.25 131.05

91.6 81.28

left shoulder L\_shoulder 40.312576 -34.00357 1987.7751

right shoulder R\_shoulder -284.5905 -40.840977 1957.7057

324.90308

first angle mean: 158.035

first angle stdev: 9.785004

second angle mean: 93.545

second angle stdev: 1.9449997

87.36 87.17

121.07 25.01

left shoulder L\_shoulder 33.58158 -30.085117 2063.348

right shoulder R\_shoulder -251.38646 -35.260365 1734.9365

284.96805

first angle mean: 134.47667

first angle stdev: 34.261074

second angle mean: 102.72

second angle stdev: 13.072233

95.95 12.75

89.04 112.72

left shoulder L\_shoulder 49.149754 -44.685772 2087.076

right shoulder R\_shoulder -249.24246 -35.253735 1752.7393

298.3922

first angle mean: 124.845

first angle stdev: 34.039284

second angle mean: 99.3

second angle stdev: 12.776997

112.73 42.99

84.67 98.56

left shoulder L\_shoulder 40.409412 -37.195957 1843.9802

right shoulder R\_shoulder -279.02264 -44.268463 1880.8911

319.43207

first angle mean: 122.422

first angle stdev: 30.828915

second angle mean: 96.374

second angle stdev: 12.839285

112.73 42.84

88.24 94.87

left shoulder L\_shoulder 11.281281 -33.275867 1839.4486

right shoulder R\_shoulder -285.62906 -40.776325 1867.588

296.91034

first angle mean: 120.80666

first angle stdev: 28.373665

second angle mean: 95.01833

second angle stdev: 12.106273

112.73 51.83

95.58 88.74

left shoulder L\_shoulder 2.3649335 -40.645203 1947.7897

right shoulder R\_shoulder -287.40295 -38.361214 1912.4785

289.76788

first angle mean: 119.65285

first angle stdev: 26.42051

second angle mean: 95.09857

second angle stdev: 11.209954

112.73 123.22

103.51 69.81

left shoulder L\_shoulder -10.067718 -45.381485 1962.4135

right shoulder R\_shoulder -289.6713 -37.168957 1911.0498

279.60358

first angle mean: 118.787506

first angle stdev: 24.819948

second angle mean: 96.15

second angle stdev: 10.848673

140.34 158.32

112.44 53.35

left shoulder L\_shoulder -5.9230623 -52.465088 1988.6783

right shoulder R\_shoulder -300.66867 -48.263058 2011.784

294.7456

first angle mean: 121.18222

first angle stdev: 24.361025

second angle mean: 97.96

second angle stdev: 11.437895

147.26 160.1

119.05 48.46

left shoulder L\_shoulder -5.9740396 -62.41456 2049.647

right shoulder R\_shoulder -311.73755 -50.036766 2112.2502

305.76352

first angle mean: 123.79

first angle stdev: 24.399141

second angle mean: 100.069

second angle stdev: 12.560805

143.24 158.29

122.61 45.68

left shoulder L\_shoulder -7.1823745 -69.410164 2081.2585

right shoulder R\_shoulder -315.49625 -48.683807 2126.9587

308.31387

first angle mean: 125.55818

first angle stdev: 23.926199

second angle mean: 102.11819

second angle stdev: 13.616983

157.9 156.01

124.12 44.07

left shoulder L\_shoulder -6.19334 -59.01446 2164.5781

right shoulder R\_shoulder -309.6592 -58.969345 2091.8489

303.46588

first angle mean: 128.25334

first angle stdev: 24.589834

second angle mean: 103.95167

second angle stdev: 14.385713

159.51 157.61

116.02 47.96

left shoulder L\_shoulder -21.75862 -54.95439 2207.9785

right shoulder R\_shoulder -288.3447 -62.434708 2037.9019

266.5861

first angle mean: 130.6577

first angle stdev: 25.05033

second angle mean: 104.880005

second angle stdev: 14.190532

156.13 159.13

111.31 45.72

left shoulder L\_shoulder -51.063004 -58.427635 2239.054

right shoulder R\_shoulder -260.50916 -60.99861 1987.5095

209.44615

first angle mean: 132.47714

first angle stdev: 25.014624

second angle mean: 105.33929

second angle stdev: 13.774245

161.31 157.64

110.97 45.49

left shoulder L\_shoulder -66.003845 -54.809563 2265.2373

right shoulder R\_shoulder -239.82533 -61.13494 1980.2054

173.82149

first angle mean: 134.39934

first angle stdev: 25.213951

second angle mean: 105.71467

second angle stdev: 13.381103

161.53 154.87

112.82 43.29

left shoulder L\_shoulder -66.1273 -58.513554 2264.4219

right shoulder R\_shoulder -239.98248 -66.5342 1978.2395

173.8552

first angle mean: 136.095

first angle stdev: 25.281193

second angle mean: 106.15875

second angle stdev: 13.069859

157.52 151.03

115.2 42.58

left shoulder L\_shoulder -50.45761 -51.653763 2245.9421

right shoulder R\_shoulder -247.79565 -60.556633 1975.1705

197.33804

first angle mean: 137.3553

first angle stdev: 25.039085

second angle mean: 106.69059

second angle stdev: 12.856847

157.8 147.72

114.97 43.62

left shoulder L\_shoulder -20.781538 -51.155277 2221.3887

right shoulder R\_shoulder -267.53336 -63.94265 1991.1799

246.75182

first angle mean: 138.49112

first angle stdev: 24.780157

second angle mean: 107.15055

second angle stdev: 12.63772

159.36 147.99

116.12 49.23

left shoulder L\_shoulder 10.692015 -56.480213 2169.8923

right shoulder R\_shoulder -286.65085 -68.85257 2011.9299

297.34286

first angle mean: 139.58948

first angle stdev: 24.565273

second angle mean: 107.62263

second angle stdev: 12.462643

151.94 154.0

114.48 57.54

left shoulder L\_shoulder 36.444473 -60.773952 2096.5532

right shoulder R\_shoulder -291.04242 -73.82167 2032.9592

327.48688

first angle mean: 140.207

first angle stdev: 24.094095

second angle mean: 107.9655

second angle stdev: 12.238676

147.15 157.45

112.64 64.89

left shoulder L\_shoulder 54.765892 -63.452564 2015.0669

right shoulder R\_shoulder -277.90704 -82.92199 2009.3767

332.67294

first angle mean: 140.53763

first angle stdev: 23.559872

second angle mean: 108.188095

second angle stdev: 11.985138

144.15 154.01

114.27 67.77

left shoulder L\_shoulder 69.61165 -63.420006 1932.251

right shoulder R\_shoulder -258.01303 -93.11064 1985.8757

327.6247

first angle mean: 140.70181

first angle stdev: 23.030489

second angle mean: 108.46455

second angle stdev: 11.777912

117.16 129.36

95.09 77.0

left shoulder L\_shoulder 97.83424 -66.01358 1899.7437

right shoulder R\_shoulder -226.43933 -101.23092 1973.5724

324.27356

first angle mean: 139.67825

first angle stdev: 23.030222

second angle mean: 107.88305

second angle stdev: 11.837531

129.07 99.17

87.86 88.83

left shoulder L\_shoulder 120.72436 -71.374855 1849.074

right shoulder R\_shoulder -204.2041 -106.81081 1919.4423

324.92847

first angle mean: 139.23625

first angle stdev: 22.644758

second angle mean: 107.048744

second angle stdev: 12.25959

149.33 111.37

80.72 99.65

left shoulder L\_shoulder 138.35367 -80.073555 1854.3505

right shoulder R\_shoulder -194.76543 -110.13615 1865.2062

333.11908

first angle mean: 139.64

first angle stdev: 22.275232

second angle mean: 105.9956

second angle stdev: 13.0730505

154.59 136.06

66.62 109.69

left shoulder L\_shoulder 148.03714 -95.422264 1923.7971

right shoulder R\_shoulder -178.84335 -107.305954 1826.2423

326.8805

first angle mean: 140.215

first angle stdev: 22.03106

second angle mean: 104.481155

second angle stdev: 14.888589

162.63 143.04

62.2 112.94

left shoulder L\_shoulder 125.17795 -117.4869 1978.4578

right shoulder R\_shoulder -175.02596 -95.63694 1771.9308

300.20392

first angle mean: 141.0452

first angle stdev: 22.029762

second angle mean: 102.915184

second angle stdev: 16.649889

157.62 138.39

68.85 104.8

left shoulder L\_shoulder 96.6653 -115.21413 1971.6731

right shoulder R\_shoulder -212.759 -94.01272 1780.0603

309.42432

first angle mean: 141.63716

first angle stdev: 21.850378

second angle mean: 101.69857

second angle stdev: 17.529465

153.99 142.92

70.34 101.0

left shoulder L\_shoulder 66.9615 -106.10494 1957.743

right shoulder R\_shoulder -245.95581 -93.19131 1771.1206

312.9173

first angle mean: 142.06313

first angle stdev: 21.58833

second angle mean: 100.61725

second angle stdev: 18.150093

145.31 127.48

84.57 90.55

left shoulder L\_shoulder 40.2174 -97.928246 1880.0754

right shoulder R\_shoulder -287.65973 -92.070076 1764.0573

327.87714

first angle mean: 142.17136

first angle stdev: 21.233477

second angle mean: 100.082344

second angle stdev: 18.076025

137.89 124.94

99.93 77.18

left shoulder L\_shoulder 8.983002 -97.870674 1836.9387

right shoulder R\_shoulder -322.59552 -90.04711 1771.848

331.57852

first angle mean: 142.03325

first angle stdev: 20.901886

second angle mean: 100.07742

second angle stdev: 17.782106

122.05 135.0

101.28 82.89

left shoulder L\_shoulder -20.43125 -109.87811 1909.2523

right shoulder R\_shoulder -351.5787 -82.49399 1856.7527

331.14746

first angle mean: 141.40875

first angle stdev: 20.864447

second angle mean: 100.115005

second angle stdev: 17.503307

126.47 146.7

98.9 86.27

left shoulder L\_shoulder -67.77938 -128.09312 1925.7042

right shoulder R\_shoulder -399.1877 -69.1688 1916.4353

331.40833

first angle mean: 140.95607

first angle stdev: 20.704857

second angle mean: 100.078186

second angle stdev: 17.237324

139.16 147.98

97.28 86.71

left shoulder L\_shoulder -81.44971 -129.4425 1925.9451

right shoulder R\_shoulder -413.1723 -69.884895 1936.0018

331.7226

first angle mean: 140.90324

first angle stdev: 20.40036

second angle mean: 99.99589

second angle stdev: 16.988522

150.1 145.72

102.81 93.63

left shoulder L\_shoulder -94.28492 -136.3459 1964.8126

right shoulder R\_shoulder -422.30338 -71.848595 1924.7421

328.01846

first angle mean: 141.16602

first angle stdev: 20.165108

second angle mean: 100.076294

second angle stdev: 16.750631

149.19 141.82

113.56 106.46

left shoulder L\_shoulder -89.60475 -126.58915 1948.7094

right shoulder R\_shoulder -414.2161 -69.572815 1892.963

324.61133

first angle mean: 141.3889

first angle stdev: 19.92674

second angle mean: 100.450836

second angle stdev: 16.664324

143.55 139.24

84.01 98.69

left shoulder L\_shoulder -79.080666 -121.68553 1996.287

right shoulder R\_shoulder -406.82178 -69.32593 1951.7765

327.74112

first angle mean: 141.44731

first angle stdev: 19.65874

second angle mean: 100.00649

second angle stdev: 16.652395

136.06 136.63

79.3 89.17

left shoulder L\_shoulder -51.970745 -116.33229 2013.9585

right shoulder R\_shoulder -383.13745 -75.1514 1984.0688

331.16672

first angle mean: 141.30554

first angle stdev: 19.417507

second angle mean: 99.461586

second angle stdev: 16.762787

131.88 137.63

84.39 85.28

left shoulder L\_shoulder -24.956255 -118.99456 2012.2192

right shoulder R\_shoulder -356.52432 -71.49834 2003.9854

331.56805

first angle mean: 141.06386

first angle stdev: 19.22476

second angle mean: 99.075134

second angle stdev: 16.717093

134.58 134.7

85.84 86.38

left shoulder L\_shoulder -0.48437673 -112.22618 2020.0331

right shoulder R\_shoulder -332.7771 -69.10833 2019.623

332.29272

first angle mean: 140.90176

first angle stdev: 19.009901

second angle mean: 98.74425

second angle stdev: 16.635637

145.92 132.84

87.61 84.13

left shoulder L\_shoulder 19.124763 -105.21831 2019.8336

right shoulder R\_shoulder -313.66406 -66.73771 2041.632

332.78882

first angle mean: 141.02415

first angle stdev: 18.792593

second angle mean: 98.47269

second angle stdev: 16.521032

147.27 132.41

84.71 89.75

left shoulder L\_shoulder 35.277363 -95.59961 2008.5394

right shoulder R\_shoulder -299.2022 -72.14084 1997.6138

334.47958

first angle mean: 141.17287

first angle stdev: 18.591923

second angle mean: 98.145004

second angle stdev: 16.457468

137.08 129.37

84.43 87.41

left shoulder L\_shoulder 41.45037 -87.02695 1993.5627

right shoulder R\_shoulder -293.72635 -76.5507 1987.2654

335.17673

first angle mean: 141.07768

first angle stdev: 18.384819

second angle mean: 97.82606

second angle stdev: 16.395798

132.39 128.56

85.1 85.21

left shoulder L\_shoulder 43.91767 -87.29444 1979.0624

right shoulder R\_shoulder -291.3623 -72.76457 1982.1521

335.27997

first angle mean: 140.88023

first angle stdev: 18.220758

second angle mean: 97.536835

second angle stdev: 16.318996

129.29 124.41

66.21 81.94

left shoulder L\_shoulder 44.15894 -76.69164 1973.1824

right shoulder R\_shoulder -290.79703 -73.40889 1952.4608

334.95596

first angle mean: 140.62268

first angle stdev: 18.09799

second angle mean: 96.84068

second angle stdev: 16.784374

131.07 124.19

68.72 80.14

left shoulder L\_shoulder 43.927753 -72.02794 1978.3987

right shoulder R\_shoulder -291.6059 -68.47703 1962.7697

335.53366

first angle mean: 140.41501

first angle stdev: 17.954317

second angle mean: 96.22936

second angle stdev: 17.099941

134.41 126.2

74.94 80.13

left shoulder L\_shoulder 42.31173 -74.289825 2002.5042

right shoulder R\_shoulder -295.5349 -66.64803 1993.1829

337.84665

first angle mean: 140.28725

first angle stdev: 17.783411

second angle mean: 95.7764

second angle stdev: 17.19374

136.14 127.3

80.21 80.15

left shoulder L\_shoulder 40.968884 -76.53147 2029.3248

right shoulder R\_shoulder -298.64368 -68.1696 2021.8079

339.61255

first angle mean: 140.20082

first angle stdev: 17.607159

second angle mean: 95.45209

second angle stdev: 17.158346

134.49 124.73

87.09 82.04

left shoulder L\_shoulder 39.97761 -74.85371 2038.3148

right shoulder R\_shoulder -300.26053 -68.38433 2030.1971

340.23813

first angle mean: 140.08429

first angle stdev: 17.445265

second angle mean: 95.28143

second angle stdev: 17.023466

138.78 124.98

91.56 80.92

left shoulder L\_shoulder 39.30577 -76.487785 2034.3948

right shoulder R\_shoulder -301.21255 -67.74839 2043.4875

340.5183

first angle mean: 140.0582

first angle stdev: 17.270897

second angle mean: 95.207

second angle stdev: 16.860424

135.01 120.72

101.16 74.16

left shoulder L\_shoulder 33.94742 -83.49872 1979.618

right shoulder R\_shoulder -296.4519 -72.01359 2078.6992

330.39932

first angle mean: 139.9592

first angle stdev: 17.115055

second angle mean: 95.32373

second angle stdev: 16.714699

134.12 119.8

104.49 75.76

left shoulder L\_shoulder 29.112396 -85.01487 1962.8112

right shoulder R\_shoulder -299.6559 -77.43972 2063.542

328.7683

first angle mean: 139.84691

first angle stdev: 16.968647

second angle mean: 95.50001

second angle stdev: 16.600998

132.07 115.7

105.65 81.18

left shoulder L\_shoulder 27.961775 -85.14928 1949.5284

right shoulder R\_shoulder -301.8391 -79.88883 2039.0277

329.80087

first angle mean: 139.70018

first angle stdev: 16.841076

second angle mean: 95.69151

second angle stdev: 16.501526

129.51 111.29

104.12 83.44

left shoulder L\_shoulder 28.175072 -83.20062 1938.4037

right shoulder R\_shoulder -302.2187 -81.34709 2024.0416

330.39377

first angle mean: 139.51146

first angle stdev: 16.740877

second angle mean: 95.8476

second angle stdev: 16.387465

127.07 116.78

98.52 82.58

left shoulder L\_shoulder 32.370117 -79.336754 1921.3698

right shoulder R\_shoulder -299.88342 -79.14127 1999.664

332.25354

first angle mean: 139.28525

first angle stdev: 16.67107

second angle mean: 95.896194

second angle stdev: 16.24173

127.81 126.27

96.74 79.71

left shoulder L\_shoulder 36.460938 -77.81936 1909.5854

right shoulder R\_shoulder -296.11517 -77.72109 1986.7201

332.5761

first angle mean: 139.08035

first angle stdev: 16.591297

second angle mean: 95.911255

second angle stdev: 16.096449

118.64 123.06

95.3 78.25

left shoulder L\_shoulder 37.8774 -78.42986 1945.21

right shoulder R\_shoulder -295.7057 -75.802155 2024.9288

333.5831

first angle mean: 138.72176

first angle stdev: 16.662628

second angle mean: 95.90053

second angle stdev: 15.954828

120.93 117.94

86.46 84.68

left shoulder L\_shoulder 44.22573 -78.22261 1853.5197

right shoulder R\_shoulder -287.42245 -66.07963 1908.4462

331.6482

first angle mean: 138.41501

first angle stdev: 16.679922

second angle mean: 95.73776

second angle stdev: 15.864355

115.91 117.41

75.11 91.7

left shoulder L\_shoulder 44.868633 -87.31722 1875.8235

right shoulder R\_shoulder -287.9101 -65.72749 1902.5104

332.77872

first angle mean: 138.03357

first angle stdev: 16.79116

second angle mean: 95.38813

second angle stdev: 15.95311

110.62 114.4

62.22 100.84

left shoulder L\_shoulder 45.25091 -84.71226 1898.9625

right shoulder R\_shoulder -288.23154 -63.091232 1895.0165

333.48245

first angle mean: 137.57668

first angle stdev: 17.01647

second angle mean: 94.835335

second angle stdev: 16.379557

115.11 125.41

89.49 85.27

left shoulder L\_shoulder 39.583866 -82.31263 1953.519

right shoulder R\_shoulder -292.71674 -54.291225 1989.2764

332.3006

first angle mean: 137.20837

first angle stdev: 17.11585

second angle mean: 94.74771

second angle stdev: 16.258917

129.63 152.29

113.24 74.78

left shoulder L\_shoulder 27.445644 -71.81174 1976.0109

right shoulder R\_shoulder -300.26416 -60.240936 2058.0083

327.7098

first angle mean: 137.08614

first angle stdev: 17.00408

second angle mean: 95.045975

second angle stdev: 16.29464

116.14 153.63

114.77 70.76

left shoulder L\_shoulder 23.969513 -64.849594 1995.3752

right shoulder R\_shoulder -306.39246 -75.22022 2061.1104

330.36197

first angle mean: 136.75366

first angle stdev: 17.070524

second angle mean: 95.359055

second angle stdev: 16.351696

142.21 147.31

111.0 59.47

left shoulder L\_shoulder 33.359795 -63.37104 1989.7238

right shoulder R\_shoulder -297.09805 -89.11998 2075.384

330.45786

first angle mean: 136.83891

first angle stdev: 16.95015

second angle mean: 95.60344

second angle stdev: 16.338999

147.72 145.89

110.35 54.21

left shoulder L\_shoulder 50.460064 -73.23146 1996.0002

right shoulder R\_shoulder -284.16656 -104.82648 2070.321

334.62662

first angle mean: 137.00632

first angle stdev: 16.87249

second angle mean: 95.830315

second angle stdev: 16.314098

148.08 148.18

111.96 53.54

left shoulder L\_shoulder 59.10185 -79.67128 2014.7848

right shoulder R\_shoulder -278.48242 -106.62528 2050.6824

337.58426

first angle mean: 137.17409

first angle stdev: 16.798733

second angle mean: 96.0747

second angle stdev: 16.30949

149.56 149.61

109.58 54.05

left shoulder L\_shoulder 60.02174 -87.22439 2079.9797

right shoulder R\_shoulder -262.44928 -100.889275 2019.7241

322.471

first angle mean: 137.35895

first angle stdev: 16.7404

second angle mean: 96.276276

second angle stdev: 16.269941

158.1 150.85

104.74 56.19

left shoulder L\_shoulder 47.39491 -96.45695 2154.8567

right shoulder R\_shoulder -233.30185 -98.46535 1992.6499

280.69675

first angle mean: 137.66396

first angle stdev: 16.803368

second angle mean: 96.40074

second angle stdev: 16.181969

167.45 152.16

97.55 58.97

left shoulder L\_shoulder 32.05809 -104.17978 2200.0928

right shoulder R\_shoulder -192.29857 -100.50316 1963.8656

224.35666

first angle mean: 138.09564

first angle stdev: 17.056751

second angle mean: 96.4174

second angle stdev: 16.064869

170.99 153.76

101.93 60.03

left shoulder L\_shoulder 19.9092 -116.49712 2229.0662

right shoulder R\_shoulder -154.00754 -103.540474 1933.0526

173.91673

first angle mean: 138.56557

first angle stdev: 17.378534

second angle mean: 96.49615

second angle stdev: 15.963117

167.69 155.24

105.19 58.54

left shoulder L\_shoulder 10.647824 -125.96887 2239.1968

right shoulder R\_shoulder -136.38176 -106.93785 1911.5507

147.02959

first angle mean: 138.97578

first angle stdev: 17.593704

second angle mean: 96.6186

second angle stdev: 15.883373

161.56 156.49

109.24 55.51

left shoulder L\_shoulder 0.49512088 -130.56927 2245.909

right shoulder R\_shoulder -113.48701 -107.51322 1889.7965

113.982124

first angle mean: 139.28944

first angle stdev: 17.669886

second angle mean: 96.79389

second angle stdev: 15.841699

157.93 156.18

111.67 55.7

left shoulder L\_shoulder 3.2773426 -129.10844 2239.4458

right shoulder R\_shoulder -106.747444 -107.443275 1879.7875

110.02479

first angle mean: 139.54478

first angle stdev: 17.6817

second angle mean: 96.99767

second angle stdev: 15.8275585

158.51 155.21

113.1 57.69

left shoulder L\_shoulder 7.982253 -125.810326 2231.081

right shoulder R\_shoulder -102.88144 -106.81456 1871.4951

110.86369

first angle mean: 139.80107

first angle stdev: 17.69781

second angle mean: 97.21527

second angle stdev: 15.829807

158.0 153.64

115.24 57.94

left shoulder L\_shoulder 17.673214 -120.95883 2226.3994

right shoulder R\_shoulder -107.10157 -107.83209 1871.0012

124.77478

first angle mean: 140.04372

first angle stdev: 17.70292

second angle mean: 97.455605

second angle stdev: 15.85925

156.67 152.13

115.06 57.83

left shoulder L\_shoulder 30.325125 -117.47464 2227.194

right shoulder R\_shoulder -115.07868 -111.73064 1877.5458

145.40381

first angle mean: 140.2625

first angle stdev: 17.687826

second angle mean: 97.68724

second angle stdev: 15.881768

156.04 152.44

111.16 55.04

left shoulder L\_shoulder 40.046486 -117.074554 2224.152

right shoulder R\_shoulder -124.58919 -117.41536 1882.4291

164.63568

first angle mean: 140.46739

first angle stdev: 17.663155

second angle mean: 97.86221

second angle stdev: 15.851864

159.33 153.22

106.26 52.48

left shoulder L\_shoulder 49.54599 -117.94207 2221.3342

right shoulder R\_shoulder -137.11282 -123.025276 1889.1261

186.65881

first angle mean: 140.70923

first angle stdev: 17.677391

second angle mean: 97.96988

second angle stdev: 15.778231

161.12 153.98

106.74 50.74

left shoulder L\_shoulder 58.199883 -116.09676 2198.077

right shoulder R\_shoulder -154.7815 -119.74416 1886.829

212.98138

first angle mean: 140.96759

first angle stdev: 17.712744

second angle mean: 98.080894

second angle stdev: 15.708679

161.9 152.45

109.18 50.16

left shoulder L\_shoulder 59.651875 -109.52795 2174.7979

right shoulder R\_shoulder -176.686 -112.33402 1891.2969

236.33788

first angle mean: 141.22925

first angle stdev: 17.754663

second angle mean: 98.21962

second angle stdev: 15.65882

158.0 149.47

111.81 50.64

left shoulder L\_shoulder 57.599884 -102.30278 2163.6118

right shoulder R\_shoulder -200.73032 -108.39504 1905.8336

258.3302

first angle mean: 141.4363

first angle stdev: 17.74164

second angle mean: 98.387405

second angle stdev: 15.634052

152.68 146.41

113.49 51.37

left shoulder L\_shoulder 50.785263 -101.1223 2158.3083

right shoulder R\_shoulder -231.06572 -110.15088 1932.5983

281.85098

first angle mean: 141.57341

first angle stdev: 17.67626

second angle mean: 98.57159

second angle stdev: 15.626595

147.07 145.15

113.73 52.69

left shoulder L\_shoulder 44.83193 -101.285126 2147.8044

right shoulder R\_shoulder -257.17178 -110.54345 1953.0952

302.00372

first angle mean: 141.63963

first angle stdev: 17.579685

second angle mean: 98.75423

second angle stdev: 15.61997

144.38 145.94

113.29 56.62

left shoulder L\_shoulder 42.07429 -100.91705 2120.7725

right shoulder R\_shoulder -282.85907 -110.49439 1970.6106

324.93335

first angle mean: 141.67226

first angle stdev: 17.477257

second angle mean: 98.92727

second angle stdev: 15.606546

141.96 148.58

114.31 57.98

left shoulder L\_shoulder 44.62036 -98.82438 2073.41

right shoulder R\_shoulder -301.65512 -107.73748 1986.9939

346.27548

first angle mean: 141.67564

first angle stdev: 17.374174

second angle mean: 99.10824

second angle stdev: 15.602882

139.32 148.73

114.35 58.58

left shoulder L\_shoulder 41.21523 -97.293045 2004.0161

right shoulder R\_shoulder -315.2667 -107.62174 2010.6094

356.48193

first angle mean: 141.64825

first angle stdev: 17.274712

second angle mean: 99.28546

second angle stdev: 15.597724

130.07 149.12

108.26 68.11

left shoulder L\_shoulder 31.404058 -97.94058 2001.7373

right shoulder R\_shoulder -323.67984 -102.60095 2025.8844

355.0839

first angle mean: 141.51518

first angle stdev: 17.219427

second angle mean: 99.38862

second angle stdev: 15.537302

123.76 149.48

104.88 75.77

left shoulder L\_shoulder 23.845879 -100.02479 2017.7767

right shoulder R\_shoulder -331.32388 -100.241425 2025.4634

355.16977

first angle mean: 141.31342

first angle stdev: 17.22443

second angle mean: 99.45102

second angle stdev: 15.459729

118.97 150.43

110.09 78.08

left shoulder L\_shoulder 14.5802355 -99.83568 1995.3818

right shoulder R\_shoulder -336.13904 -96.65574 2006.2881

350.71927

first angle mean: 141.06236

first angle stdev: 17.288544

second angle mean: 99.57056

second angle stdev: 15.413478

98.9 143.32

103.18 80.21

left shoulder L\_shoulder 9.515182 -102.05935 1981.4735

right shoulder R\_shoulder -335.8953 -98.170296 1999.8225

345.41046

first angle mean: 140.59389

first angle stdev: 17.7512

second angle mean: 99.61066

second angle stdev: 15.332276

105.71 132.63

99.31 78.93

left shoulder L\_shoulder 12.180969 -98.212456 1906.09

right shoulder R\_shoulder -329.4823 -98.45055 1951.5284

341.66327

first angle mean: 140.21056

first angle stdev: 18.024092

second angle mean: 99.607346

second angle stdev: 15.247832

127.34 122.45

98.95 84.11

left shoulder L\_shoulder 18.48808 -96.421196 1880.8524

right shoulder R\_shoulder -323.306 -98.55091 1923.8873

341.79407

first angle mean: 140.07065

first angle stdev: 17.975473

second angle mean: 99.600204

second angle stdev: 15.16489

137.85 116.58

99.16 88.51

left shoulder L\_shoulder 25.739876 -95.46001 1874.2208

right shoulder R\_shoulder -314.6872 -96.9265 1911.5159

340.42706

first angle mean: 140.04677

first angle stdev: 17.880037

second angle mean: 99.595474

second angle stdev: 15.083207

138.18 114.3

97.67 88.88

left shoulder L\_shoulder 29.803274 -96.02558 1893.3486

right shoulder R\_shoulder -310.02994 -97.6774 1930.867

339.83322

first angle mean: 140.0269

first angle stdev: 17.785707

second angle mean: 99.57499

second angle stdev: 15.004063

139.18 115.61

93.14 90.05

left shoulder L\_shoulder 32.245865 -97.09732 1922.1808

right shoulder R\_shoulder -308.42236 -97.589554 1946.517

340.6682

first angle mean: 140.01799

first angle stdev: 17.69206

second angle mean: 99.50725

second angle stdev: 14.939327

139.66 116.37

94.22 87.66

left shoulder L\_shoulder 35.036892 -97.99748 1931.9167

right shoulder R\_shoulder -305.4796 -97.53686 1955.6455

340.5165

first angle mean: 140.01427

first angle stdev: 17.599712

second angle mean: 99.45219

second angle stdev: 14.871007

131.73 115.16

92.21 89.22

left shoulder L\_shoulder 35.225597 -99.33167 1960.1107

right shoulder R\_shoulder -304.37695 -95.799194 1958.8184

339.60254

first angle mean: 139.92886

first angle stdev: 17.52874

second angle mean: 99.377525

second angle stdev: 14.812228

126.22 114.29

91.33 89.52

left shoulder L\_shoulder 32.717236 -99.804665 1975.1154

right shoulder R\_shoulder -305.4858 -94.9567 1956.0873

338.20303

first angle mean: 139.78897

first angle stdev: 17.493416

second angle mean: 99.29541

second angle stdev: 14.758639

126.49 115.52

92.3 87.63

left shoulder L\_shoulder 30.753494 -100.60186 1976.8091

right shoulder R\_shoulder -306.4696 -95.11566 1953.1829

337.22308

first angle mean: 139.65465

first angle stdev: 17.45557

second angle mean: 99.22475

second angle stdev: 14.7005625

136.0 114.01

97.0 85.2

left shoulder L\_shoulder 32.026024 -99.797874 1956.2799

right shoulder R\_shoulder -305.7715 -93.71117 1948.7297

337.79755

first angle mean: 139.6181

first angle stdev: 17.37188

second angle mean: 99.2025

second angle stdev: 14.628551

146.89 107.4

102.89 84.11

left shoulder L\_shoulder 33.84037 -102.221436 1948.603

right shoulder R\_shoulder -302.0799 -92.21779 1957.5098

335.92026

first angle mean: 139.6901

first angle stdev: 17.300653

second angle mean: 99.239006

second angle stdev: 14.560531

149.14 108.87

103.11 85.54

left shoulder L\_shoulder 33.124294 -99.539444 1942.0752

right shoulder R\_shoulder -301.7381 -91.46339 1933.5544

334.8624

first angle mean: 139.78273

first angle stdev: 17.240799

second angle mean: 99.27696

second angle stdev: 14.493998

143.82 105.82

101.09 90.32

left shoulder L\_shoulder 32.600372 -97.14258 1937.6036

right shoulder R\_shoulder -300.86618 -92.078125 1924.6084

333.46655

first angle mean: 139.82193

first angle stdev: 17.161467

second angle mean: 99.29456

second angle stdev: 14.424562

140.1 96.91

98.48 96.95

left shoulder L\_shoulder 30.705542 -95.92836 1992.0233

right shoulder R\_shoulder -302.32825 -94.62707 1971.616

333.03378

first angle mean: 139.82462

first angle stdev: 17.078783

second angle mean: 99.286736

second angle stdev: 14.355266

136.51 95.74

91.55 102.63

left shoulder L\_shoulder 30.48636 -98.88283 1982.3761

right shoulder R\_shoulder -302.1488 -94.81337 1968.7178

332.63516

first angle mean: 139.79305

first angle stdev: 17.000309

second angle mean: 99.21305

second angle stdev: 14.306492

140.84 95.37

91.82 102.73

left shoulder L\_shoulder 30.950785 -100.22624 1959.5732

right shoulder R\_shoulder -301.74634 -93.56652 1953.3154

332.6971

first angle mean: 139.80292

first angle stdev: 16.920233

second angle mean: 99.1433

second angle stdev: 14.256773

144.12 97.16

94.98 103.44

left shoulder L\_shoulder 32.93215 -102.677124 1947.2863

right shoulder R\_shoulder -297.46783 -89.39441 1953.2191

330.4

first angle mean: 139.84326

first angle stdev: 16.846102

second angle mean: 99.1044

second angle stdev: 14.195649

144.19 97.24

95.63 103.7

left shoulder L\_shoulder 31.952147 -102.944664 1946.8804

right shoulder R\_shoulder -297.3398 -86.36077 1957.1733

329.29196

first angle mean: 139.88351

first angle stdev: 16.773096

second angle mean: 99.07223

second angle stdev: 14.133695

143.47 91.32

89.79 102.74

left shoulder L\_shoulder 29.87866 -103.573166 1980.9075

right shoulder R\_shoulder -298.5981 -87.540146 1996.8962

328.47678

first angle mean: 139.91641

first angle stdev: 16.69948

second angle mean: 98.98707

second angle stdev: 14.0965185

146.62 96.19

74.58 103.1

left shoulder L\_shoulder 35.523056 -95.23696 1982.9966

right shoulder R\_shoulder -289.5475 -88.45012 1940.9672

325.07056

first angle mean: 139.97736

first angle stdev: 16.635572

second angle mean: 98.76519

second angle stdev: 14.222223

148.17 104.68

70.07 99.77

left shoulder L\_shoulder 34.94956 -95.9811 2007.5546

right shoulder R\_shoulder -285.08722 -91.46321 1963.0358

320.03677

first angle mean: 140.05116

first angle stdev: 16.578548

second angle mean: 98.506676

second angle stdev: 14.415293

147.09 113.17

71.99 91.81

left shoulder L\_shoulder 30.398277 -102.158844 2018.651

right shoulder R\_shoulder -291.93713 -96.47152 2032.7734

322.33542

first angle mean: 140.11401

first angle stdev: 16.517649

second angle mean: 98.26991

second angle stdev: 14.565962

145.22 131.58

66.98 98.11

left shoulder L\_shoulder 24.98986 -99.23777 2028.9897

right shoulder R\_shoulder -297.40628 -96.56456 2031.4269

322.39615

first angle mean: 140.1592

first angle stdev: 16.45135

second angle mean: 97.99302

second angle stdev: 14.794499

148.12 149.34

61.21 105.89

left shoulder L\_shoulder 14.787302 -101.14599 2029.2635

right shoulder R\_shoulder -305.453 -96.25213 2046.5615

320.2403

first angle mean: 140.22903

first angle stdev: 16.39585

second angle mean: 97.67036

second angle stdev: 15.123541

152.1 147.69

57.05 108.16

left shoulder L\_shoulder 6.572142 -107.16208 2020.8948

right shoulder R\_shoulder -304.3664 -101.056076 2078.9187

310.93854

first angle mean: 140.33224

first angle stdev: 16.361572

second angle mean: 97.31714

second angle stdev: 15.52275

155.62 141.2

56.69 110.3

left shoulder L\_shoulder -8.779525 -112.895546 2003.861

right shoulder R\_shoulder -305.04337 -104.49484 2107.5884

296.26385

first angle mean: 140.46405

first angle stdev: 16.352083

second angle mean: 96.9669

second angle stdev: 15.9054985

157.08 110.36

55.76 128.21

left shoulder L\_shoulder -24.54628 -116.695076 1976.4551

right shoulder R\_shoulder -300.16873 -111.711205 2111.3018

275.62244

first angle mean: 140.60605

first angle stdev: 16.35374

second angle mean: 96.61471

second angle stdev: 16.285315

159.0 99.05

54.29 133.36

left shoulder L\_shoulder -38.485 -117.25834 1954.5327

right shoulder R\_shoulder -296.23233 -116.60394 2099.8652

257.7473

first angle mean: 140.76193

first angle stdev: 16.371357

second angle mean: 96.25603

second angle stdev: 16.673826

159.15 101.44

51.71 136.37

left shoulder L\_shoulder -49.353695 -117.78759 1953.2848

right shoulder R\_shoulder -294.59 -117.90118 2106.0981

245.2363

first angle mean: 140.91646

first angle stdev: 16.388609

second angle mean: 95.88169

second angle stdev: 17.094303

157.0 105.49

44.83 134.34

left shoulder L\_shoulder -55.662483 -118.78452 1965.497

right shoulder R\_shoulder -294.1729 -118.564575 2106.5015

238.51044

first angle mean: 141.05049

first angle stdev: 16.385542

second angle mean: 95.45625

second angle stdev: 17.644207

156.76 107.38

42.91 134.03

left shoulder L\_shoulder -57.003155 -119.41303 1969.9683

right shoulder R\_shoulder -291.32498 -119.54051 2105.4666

234.32182

first angle mean: 141.18031

first angle stdev: 16.379555

second angle mean: 95.02199

second angle stdev: 18.203728

154.85 104.1

40.86 134.75

left shoulder L\_shoulder -56.455074 -117.376816 1979.692

right shoulder R\_shoulder -290.1484 -116.51414 2107.0146

233.69333

first angle mean: 141.29236

first angle stdev: 16.358784

second angle mean: 94.57803

second angle stdev: 18.775187

155.32 102.03

40.73 134.1

left shoulder L\_shoulder -54.280483 -115.19807 1976.9822

right shoulder R\_shoulder -289.52234 -114.50448 2095.4583

235.24185

first angle mean: 141.4064

first angle stdev: 16.340775

second angle mean: 94.14025

second angle stdev: 19.313833

157.66 101.63

41.26 134.06

left shoulder L\_shoulder -53.560658 -115.598755 1982.0442

right shoulder R\_shoulder -289.38354 -114.18428 2098.768

235.82289

first angle mean: 141.53749

first angle stdev: 16.339546

second angle mean: 93.7138

second angle stdev: 19.80871

159.74 101.2

42.58 133.99

left shoulder L\_shoulder -52.3332 -113.72401 1980.166

right shoulder R\_shoulder -289.0233 -112.44484 2094.9043

236.6901

first angle mean: 141.6831

first angle stdev: 16.354643

second angle mean: 93.304726

second angle stdev: 20.248356

159.67 102.24

44.53 133.45

left shoulder L\_shoulder -51.647884 -112.797775 1981.7728

right shoulder R\_shoulder -287.65463 -112.12323 2097.1003

236.00674

first angle mean: 141.82587

first angle stdev: 16.367617

second angle mean: 92.917625

second angle stdev: 20.626993

159.76 103.33

45.08 132.02

left shoulder L\_shoulder -50.665836 -113.83266 1976.7638

right shoulder R\_shoulder -286.2823 -114.19967 2092.0994

235.61646

first angle mean: 141.96707

first angle stdev: 16.379929

second angle mean: 92.540955

second angle stdev: 20.976175

159.95 102.23

43.3 131.34

left shoulder L\_shoulder -47.022263 -116.93021 1982.7749

right shoulder R\_shoulder -283.43292 -117.32233 2095.2017

236.41066

first angle mean: 142.10757

first angle stdev: 16.392456

second angle mean: 92.15625

second angle stdev: 21.3391

154.91 95.46

43.66 130.2

left shoulder L\_shoulder -36.58574 -110.032394 1981.3213

right shoulder R\_shoulder -280.02252 -110.692764 2078.659

243.43678

first angle mean: 142.20682

first angle stdev: 16.367353

second angle mean: 91.78031

second angle stdev: 21.677584

154.18 90.27

43.79 130.36

left shoulder L\_shoulder -25.627686 -104.78033 1983.7609

right shoulder R\_shoulder -282.8213 -104.67112 2074.9885

257.1936

first angle mean: 142.29892

first angle stdev: 16.337805

second angle mean: 91.411156

second angle stdev: 21.99733

153.12 82.41

50.4 129.04

left shoulder L\_shoulder -16.605675 -103.94054 1990.1373

right shoulder R\_shoulder -287.03293 -100.89794 2075.8682

270.42725

first angle mean: 142.38153

first angle stdev: 16.302555

second angle mean: 91.09809

second angle stdev: 22.202023

141.24 76.71

59.61 122.89

left shoulder L\_shoulder -4.640699 -105.738945 2020.5416

right shoulder R\_shoulder -296.0712 -92.44853 2096.9238

291.4305

first angle mean: 142.37288

first angle stdev: 16.240988

second angle mean: 90.85954

second angle stdev: 22.285645

142.55 96.68

69.42 108.83

left shoulder L\_shoulder 2.5812685 -107.45664 2031.653

right shoulder R\_shoulder -301.11493 -88.690956 2070.4172

303.6962

first angle mean: 142.3742

first angle stdev: 16.179823

second angle mean: 90.69834

second angle stdev: 22.27882

150.19 110.73

81.4 97.5

left shoulder L\_shoulder 7.416218 -110.31716 2032.4025

right shoulder R\_shoulder -306.13162 -90.13093 2047.1204

313.54785

first angle mean: 142.43254

first angle stdev: 16.133366

second angle mean: 90.62895

second angle stdev: 22.209957

138.17 97.8

88.27 106.02

left shoulder L\_shoulder 6.3968005 -108.656204 2009.1796

right shoulder R\_shoulder -304.1428 -91.431076 1961.2596

310.53958

first angle mean: 142.40097

first angle stdev: 16.077658

second angle mean: 90.61148

second angle stdev: 22.128468

120.97 97.74

94.9 93.58

left shoulder L\_shoulder 0.68443966 -112.0368 1999.9171

right shoulder R\_shoulder -307.11078 -92.45225 1934.4963

307.79523

first angle mean: 142.2434

first angle stdev: 16.122738

second angle mean: 90.64301

second angle stdev: 22.050009

108.82 110.52

96.53 84.79

left shoulder L\_shoulder 0.50799626 -112.64717 1985.8141

right shoulder R\_shoulder -310.42215 -94.19014 1935.4257

310.93015

first angle mean: 141.99944

first angle stdev: 16.313797

second angle mean: 90.68599

second angle stdev: 21.975101

115.61 131.48

99.43 76.23

left shoulder L\_shoulder 5.0072517 -106.222664 1978.3909

right shoulder R\_shoulder -315.7341 -98.43004 1983.633

320.74136

first angle mean: 141.8082

first angle stdev: 16.407963

second angle mean: 90.74935

second angle stdev: 21.907892

126.93 143.28

99.24 75.09

left shoulder L\_shoulder 9.169862 -101.29382 1965.2203

right shoulder R\_shoulder -310.751 -96.90218 2004.401

319.92087

first angle mean: 141.70116

first angle stdev: 16.397118

second angle mean: 90.81043

second angle stdev: 21.840736

133.96robot count: 1

133.85

92.48 82.03

left shoulder L\_shoulder 16.868757 -96.17719 1952.8572

right shoulder R\_shoulder -304.8845 -95.549866 1995.3584

321.75323

first angle mean: 141.64587

first angle stdev: 16.351452

second angle mean: 90.822365

second angle stdev: 21.763048

134.07 105.32

90.38 89.09

left shoulder L\_shoulder 25.108849 -101.56087 1951.4974

right shoulder R\_shoulder -299.4724 -94.30065 1961.047

324.58127

first angle mean: 141.59215

first angle stdev: 16.305761

second angle mean: 90.81922

second angle stdev: 21.685768

130.51 98.21

91.34 91.33

left shoulder L\_shoulder 24.388285 -101.09079 1965.6011

right shoulder R\_shoulder -300.23773 -94.17386 1953.68

324.626

first angle mean: 141.51408

first angle stdev: 16.27465

second angle mean: 90.82288

second angle stdev: 21.609318

128.07 101.06

97.12 86.67

left shoulder L\_shoulder 23.233532 -99.97359 1968.4958

right shoulder R\_shoulder -301.79623 -94.07839 1976.0547

325.02975

first angle mean: 141.42007

first angle stdev: 16.256296

second angle mean: 90.86693

second angle stdev: 21.540022

129.01 108.14

99.51 82.67

left shoulder L\_shoulder 26.650772 -98.40686 1958.2921

right shoulder R\_shoulder -299.62958 -93.82652 1986.9299

326.28033

first angle mean: 141.3339

first angle stdev: 16.2325

second angle mean: 90.92695

second angle stdev: 21.477097

132.58 112.3

103.46 78.03

left shoulder L\_shoulder 30.05943 -99.35491 1939.5942

right shoulder R\_shoulder -298.48517 -93.10032 2006.8059

328.5446

first angle mean: 141.27351

first angle stdev: 16.192644

second angle mean: 91.013374

second angle stdev: 21.428026

132.43 111.58

102.09 78.49

left shoulder L\_shoulder 32.838524 -97.90564 1885.224

right shoulder R\_shoulder -293.7572 -90.57392 1963.5248

326.59573

first angle mean: 141.21295

first angle stdev: 16.15357

second angle mean: 91.08924

second angle stdev: 21.374052

132.12 110.69

99.98 78.55

left shoulder L\_shoulder 30.861645 -97.83725 1879.2596

right shoulder R\_shoulder -296.09955 -90.613434 1957.4344

326.96118

first angle mean: 141.1511

first angle stdev: 16.115873

second angle mean: 91.14973

second angle stdev: 21.313759

127.62 129.86

100.26 77.48

left shoulder L\_shoulder 27.988165 -96.61535 1881.2198

right shoulder R\_shoulder -298.65854 -91.844696 1961.8359

326.6467

first angle mean: 141.05966

first angle stdev: 16.09954

second angle mean: 91.21128

second angle stdev: 21.254736

125.23 148.84

101.2 76.09

left shoulder L\_shoulder 21.79277 -91.85069 1898.8724

right shoulder R\_shoulder -303.68878 -92.9811 1984.6638

325.48157

first angle mean: 140.95343

first angle stdev: 16.097395

second angle mean: 91.27832

second angle stdev: 21.198986

116.77 156.77

101.05 71.27

left shoulder L\_shoulder 12.028574 -88.678505 1897.2626

right shoulder R\_shoulder -309.01892 -95.41998 1980.2983

321.0475

first angle mean: 140.7922

first angle stdev: 16.163895

second angle mean: 91.34346

second angle stdev: 21.143162

126.26 151.25

101.8 62.97

left shoulder L\_shoulder 12.976334 -82.8302 1866.7535

right shoulder R\_shoulder -303.89087 -97.82653 1963.6147

316.8672

first angle mean: 140.69595

first angle stdev: 16.153345

second angle mean: 91.41271

second angle stdev: 21.090096

140.47 149.55

108.82 58.5

left shoulder L\_shoulder 16.248285 -87.47032 1909.5245

right shoulder R\_shoulder -303.9719 -98.84695 1995.2775

320.22018

first angle mean: 140.69446

first angle stdev: 16.100132

second angle mean: 91.527245

second angle stdev: 21.067661

150.02 148.66

109.84 55.78

left shoulder L\_shoulder 22.03095 -101.1067 2009.4275

right shoulder R\_shoulder -305.94266 -100.24862 2031.691

327.9736

first angle mean: 140.75542

first angle stdev: 16.065016

second angle mean: 91.646935

second angle stdev: 21.050484

159.73 149.5

106.34 51.27

left shoulder L\_shoulder 14.897271 -109.52372 2100.8906

right shoulder R\_shoulder -301.86566 -104.28499 2037.3405

316.76294

first angle mean: 140.87863

first angle stdev: 16.085135

second angle mean: 91.74234

second angle stdev: 21.01519

161.3 149.55

102.64 51.29

left shoulder L\_shoulder -11.036142 -107.24626 2182.4314

right shoulder R\_shoulder -275.68668 -106.87477 2004.7114

264.65054

first angle mean: 141.01038

first angle stdev: 16.11631

second angle mean: 91.812645

second angle stdev: 20.96545

155.21 150.74

101.82 56.03

left shoulder L\_shoulder -45.968967 -105.31937 2219.184

right shoulder R\_shoulder -240.14984 -104.35865 1965.9453

194.18088

first angle mean: 141.10141

first angle stdev: 16.104494

second angle mean: 91.87679

second angle stdev: 20.913403

156.18 150.67

102.19 59.35

left shoulder L\_shoulder -59.85976 -108.28431 2226.6438

right shoulder R\_shoulder -216.07355 -104.41701 1946.7819

156.21379

first angle mean: 141.19745

first angle stdev: 16.09788

second angle mean: 91.94248

second angle stdev: 20.862833

157.17 150.0

103.71 63.64

left shoulder L\_shoulder -82.407684 -113.443344 2229.3728

right shoulder R\_shoulder -190.72546 -102.04548 1909.2021

108.31778

first angle mean: 141.29854

first angle stdev: 16.096773

second angle mean: 92.01696

second angle stdev: 20.817633

156.57 150.29

107.95 63.82

left shoulder L\_shoulder -90.723526 -114.74821 2226.4731

right shoulder R\_shoulder -178.72531 -96.00824 1886.8347

88.001785

first angle mean: 141.39458

first angle stdev: 16.091427

second angle mean: 92.11717

second angle stdev: 20.790257

156.72 150.47

114.26 62.24

left shoulder L\_shoulder -87.27745 -111.93346 2221.406

right shoulder R\_shoulder -175.35995 -91.71472 1881.859

88.082504

first angle mean: 141.49039

first angle stdev: 16.086468

second angle mean: 92.25557

second angle stdev: 20.798525

153.39 153.26

115.38 61.0

left shoulder L\_shoulder -80.29195 -111.3842 2225.9436

right shoulder R\_shoulder -181.60153 -94.09878 1886.6515

101.309586

first angle mean: 141.56429

first angle stdev: 16.063662

second angle mean: 92.39919

second angle stdev: 20.813276

145.84 153.86

118.01 59.23

left shoulder L\_shoulder -72.94023 -110.69405 2232.3774

right shoulder R\_shoulder -189.06708 -97.3675 1893.3049

116.12685

first angle mean: 141.59068

first angle stdev: 16.017506

second angle mean: 92.55728

second angle stdev: 20.845678

150.31 153.13

111.1 55.66

left shoulder L\_shoulder -63.39751 -108.898186 2233.729

right shoulder R\_shoulder -197.3437 -99.01637 1899.693

133.9462

first angle mean: 141.64417

first angle stdev: 15.982805

second angle mean: 92.67104

second angle stdev: 20.832016

155.43 154.4

106.79 54.22

left shoulder L\_shoulder -55.42112 -106.74744 2226.8833

right shoulder R\_shoulder -202.24133 -99.43849 1897.3623

146.82022

first angle mean: 141.72823

first angle stdev: 15.970103

second angle mean: 92.75713

second angle stdev: 20.797472

154.06 153.26

107.88 54.41

left shoulder L\_shoulder -51.141895 -106.24252 2236.2642

right shoulder R\_shoulder -204.24933 -99.89171 1907.8851

153.10744

first angle mean: 141.80296

first angle stdev: 15.950378

second angle mean: 92.848785

second angle stdev: 20.76755

153.42 155.85

110.87 51.37

left shoulder L\_shoulder -49.002213 -108.723076 2250.9092

right shoulder R\_shoulder -209.39923 -98.387794 1924.6742

160.39702

first angle mean: 141.87294

first angle stdev: 15.9276495

second angle mean: 92.95735

second angle stdev: 20.751808

152.14 156.45

115.4 53.42

left shoulder L\_shoulder -45.789303 -111.838486 2252.1426

right shoulder R\_shoulder -211.2261 -97.231895 1928.58

165.4368

first angle mean: 141.93442

first angle stdev: 15.899634

second angle mean: 93.091736

second angle stdev: 20.761908

153.03 155.01

115.87 53.19

left shoulder L\_shoulder -41.651474 -109.632454 2244.0774

right shoulder R\_shoulder -214.0054 -97.70728 1923.8226

172.35393

first angle mean: 142.00047

first angle stdev: 15.875202

second angle mean: 93.22732

second angle stdev: 20.774046

155.58 151.71

114.52 52.76

left shoulder L\_shoulder -36.515568 -107.57213 2235.1108

right shoulder R\_shoulder -219.55867 -101.16211 1920.198

183.0431

first angle mean: 142.08083

first angle stdev: 15.862392

second angle mean: 93.35331

second angle stdev: 20.77677

159.03 149.3

112.86 51.68

left shoulder L\_shoulder -24.14464 -102.38989 2225.5286

right shoulder R\_shoulder -227.83511 -102.03715 1924.0475

203.69048

first angle mean: 142.18054

first angle stdev: 15.86869

second angle mean: 93.46806

second angle stdev: 20.76921

163.14 149.19

109.54 48.14

left shoulder L\_shoulder -9.683214 -98.11565 2215.8965

right shoulder R\_shoulder -235.61221 -100.870705 1930.517

225.929

first angle mean: 142.3031

first angle stdev: 15.902724

second angle mean: 93.56204

second angle stdev: 20.74462

159.61 147.63

107.36 51.69

left shoulder L\_shoulder 7.943295 -96.66935 2186.5027

right shoulder R\_shoulder -251.11658 -99.295074 1930.7072

259.05988

first angle mean: 142.40373

first angle stdev: 15.91093

second angle mean: 93.64227

second angle stdev: 20.710812

145.76 145.18

107.09 56.86

left shoulder L\_shoulder 41.541405 -95.31796 2141.609

right shoulder R\_shoulder -273.44247 -105.99961 1963.1017

314.9839

first angle mean: 142.42311

first angle stdev: 15.866918

second angle mean: 93.72

second angle stdev: 20.676016

137.58 145.07

104.77 59.85

left shoulder L\_shoulder 70.54525 -89.43473 2080.1863

right shoulder R\_shoulder -280.8741 -108.943436 2003.5375

351.41937

first angle mean: 142.3953

first angle stdev: 15.825493

second angle mean: 93.78351

second angle stdev: 20.63343

138.79 147.94

105.65 63.29

left shoulder L\_shoulder 82.34021 -85.070946 2025.5757

right shoulder R\_shoulder -276.49692 -106.78852 2037.42

358.83713

first angle mean: 142.3747

first angle stdev: 15.782552

second angle mean: 93.85132

second angle stdev: 20.593826

141.4 156.07

111.17 64.34

left shoulder L\_shoulder 79.55367 -82.85425 1947.2327

right shoulder R\_shoulder -262.982 -107.49433 2066.9065

342.53568

first angle mean: 142.36916

first angle stdev: 15.737822

second angle mean: 93.94971

second angle stdev: 20.576454

124.59 153.37

114.85 66.57

left shoulder L\_shoulder 73.2463 -90.991455 1898.6063

right shoulder R\_shoulder -246.59631 -105.25417 2078.0

319.84262

first angle mean: 142.2687

first angle stdev: 15.749777

second angle mean: 94.067795

second angle stdev: 20.57796

119.53 138.42

115.38 66.43

left shoulder L\_shoulder 69.694115 -94.160576 1860.2949

right shoulder R\_shoulder -238.25449 -102.70571 2086.487

307.9486

first angle mean: 142.14096

first angle stdev: 15.797164

second angle mean: 94.18752

second angle stdev: 20.58181

127.06 129.72

113.51 65.21

left shoulder L\_shoulder 62.277924 -93.81249 1806.5675

right shoulder R\_shoulder -233.19513 -99.24726 2063.6782

295.47305

first angle mean: 142.0567

first angle stdev: 15.793027

second angle mean: 94.29547

second angle stdev: 20.574705

121.76 124.23

102.16 73.28

left shoulder L\_shoulder 74.08848 -93.20051 1814.6056

right shoulder R\_shoulder -250.25594 -96.485466 2012.7433

324.34442

first angle mean: 141.94394

first angle stdev: 15.821188

second angle mean: 94.33916

second angle stdev: 20.525799

123.64 119.04

100.65 74.98

left shoulder L\_shoulder 77.38455 -90.97542 1820.7638

right shoulder R\_shoulder -265.054 -95.74407 1981.2014

342.43854

first angle mean: 141.84282

first angle stdev: 15.835651

second angle mean: 94.37403

second angle stdev: 20.474363

123.37 121.64

104.69 73.74

left shoulder L\_shoulder 74.896034 -87.05571 1824.228

right shoulder R\_shoulder -278.8592 -96.43457 1957.0128

353.75522

first angle mean: 141.74132

first angle stdev: 15.851015

second angle mean: 94.43072

second angle stdev: 20.432274

121.0 134.03

107.96 73.48

left shoulder L\_shoulder 61.629612 -85.24369 1825.328

right shoulder R\_shoulder -294.39954 -95.8157 1947.4738

356.02914

first angle mean: 141.62798

first angle stdev: 15.881425

second angle mean: 94.50465

second angle stdev: 20.400768

89.37 136.29

110.36 76.98

left shoulder L\_shoulder 44.13358 -87.27466 1841.0458

right shoulder R\_shoulder -304.9715 -99.545815 1947.8253

349.10507

first angle mean: 141.34396

first angle stdev: 16.297548

second angle mean: 94.59082

second angle stdev: 20.378622

99.96 135.61

113.22 74.71

left shoulder L\_shoulder 32.471966 -86.32294 1822.5519

right shoulder R\_shoulder -307.16302 -102.36291 1955.6344

339.63498

first angle mean: 141.12027

first angle stdev: 16.534262

second angle mean: 94.69151

second angle stdev: 20.369318

115.48 134.27

108.73 74.3

left shoulder L\_shoulder 30.280804 -91.04997 1830.4631

right shoulder R\_shoulder -308.06204 -103.78555 1967.0079

338.34283

first angle mean: 140.98242

first angle stdev: 16.59601

second angle mean: 94.76699

second angle stdev: 20.340412

136.96 124.82

106.57 74.02

left shoulder L\_shoulder 25.49991 -100.11422 1840.1403

right shoulder R\_shoulder -312.4951 -102.11697 1983.1111

337.995

first angle mean: 140.96092

first angle stdev: 16.554176

second angle mean: 94.83011

second angle stdev: 20.304209

145.4 122.11

102.04 79.81

left shoulder L\_shoulder 23.998587 -107.35878 1861.7631

right shoulder R\_shoulder -321.1816 -98.85705 1986.2214

345.1802

first angle mean: 140.98453

first angle stdev: 16.513247

second angle mean: 94.868454

second angle stdev: 20.256926

146.82 105.71

92.42 94.35

left shoulder L\_shoulder 23.216726 -108.42653 1896.7059

right shoulder R\_shoulder -324.14584 -93.70753 1972.8885

347.36258

first angle mean: 141.0154

first angle stdev: 16.474943

second angle mean: 94.85551

second angle stdev: 20.204046

146.61 97.22

85.71 103.45

left shoulder L\_shoulder 19.220322 -105.849495 1939.6682

right shoulder R\_shoulder -327.3332 -90.26865 1971.7452

346.55353

first angle mean: 141.04485

first angle stdev: 16.436516

second angle mean: 94.80737

second angle stdev: 20.161669

151.28 106.3

72.65 106.74

left shoulder L\_shoulder 12.600198 -108.91146 1926.9703

right shoulder R\_shoulder -304.5632 -88.673225 1879.1997

317.1634

first angle mean: 141.09843

first angle stdev: 16.410065

second angle mean: 94.69137

second angle stdev: 20.172298

152.66 115.77

71.45 103.99

left shoulder L\_shoulder 7.880927 -113.91524 1958.5812

right shoulder R\_shoulder -297.5732 -89.66048 1888.7273

305.45413

first angle mean: 141.15865

first angle stdev: 16.388418

second angle mean: 94.57031

second angle stdev: 20.189129

153.16 132.72

67.37 103.98

left shoulder L\_shoulder 1.6046164 -120.282394 1987.1417

right shoulder R\_shoulder -291.02374 -89.22014 1878.0219

292.62836

first angle mean: 141.22083

first angle stdev: 16.368599

second angle mean: 94.42938

second angle stdev: 20.231228

152.54 148.4

65.15 107.77

left shoulder L\_shoulder -5.466208 -122.22695 2012.7426

right shoulder R\_shoulder -292.54422 -89.410835 1890.1151

287.078

first angle mean: 141.27917

first angle stdev: 16.346468

second angle mean: 94.27845

second angle stdev: 20.287657

151.6 155.74

59.38 108.36

left shoulder L\_shoulder -8.899898 -124.11622 2021.3265

right shoulder R\_shoulder -300.04715 -95.96028 1906.8179

291.14725

first angle mean: 141.33209

first angle stdev: 16.321157

second angle mean: 94.09949

second angle stdev: 20.388523

150.44 153.38

57.93 103.55

left shoulder L\_shoulder -9.920642 -125.82213 2029.0852

right shoulder R\_shoulder -314.51694 -106.71305 1965.2693

304.59628

first angle mean: 141.37857

first angle stdev: 16.292395

second angle mean: 93.91495

second angle stdev: 20.499065

150.25 147.12

54.68 101.06

left shoulder L\_shoulder -9.676277 -123.79591 1988.8156

right shoulder R\_shoulder -315.19598 -112.391075 1978.2842

305.5197

first angle mean: 141.4236

first angle stdev: 16.263216

second angle mean: 93.71578

second angle stdev: 20.636208

151.53 139.77

55.07 102.04

left shoulder L\_shoulder -20.098774 -121.488976 1954.6085

right shoulder R\_shoulder -310.75433 -119.77747 2014.1947

290.65555

first angle mean: 141.47466

first angle stdev: 16.237906

second angle mean: 93.52061

second angle stdev: 20.765528

155.15 131.22

59.73 106.68

left shoulder L\_shoulder -42.45648 -120.583755 1943.3398

right shoulder R\_shoulder -301.77216 -123.80164 2083.9048

259.31567

first angle mean: 141.54337

first angle stdev: 16.225895

second angle mean: 93.35081

second angle stdev: 20.850637

157.41 120.77

62.29 116.89

left shoulder L\_shoulder -63.529568 -118.23433 1924.834

right shoulder R\_shoulder -288.90054 -129.36336 2113.1553

225.37097

first angle mean: 141.6227

first angle stdev: 16.223925

second angle mean: 93.195496

second angle stdev: 20.913515

157.74 117.87

60.36 103.51

left shoulder L\_shoulder -93.89307 -117.2986 1905.4757

right shoulder R\_shoulder -282.7284 -131.67572 2131.3188

188.83533

first angle mean: 141.70288

first angle stdev: 16.223198

second angle mean: 93.03214

second angle stdev: 20.98896

157.45 119.14

61.51 99.11

left shoulder L\_shoulder -101.3157 -115.4161 1895.0099

right shoulder R\_shoulder -277.14795 -131.68471 2137.6104

175.83224

first angle mean: 141.78084

first angle stdev: 16.220688

second angle mean: 92.87608

second angle stdev: 21.05351

157.85 119.9

61.17 97.58

left shoulder L\_shoulder -112.569435 -112.43923 1891.3904

right shoulder R\_shoulder -271.38815 -131.17964 2153.191

158.81873

first angle mean: 141.85999

first angle stdev: 16.219753

second angle mean: 92.7199

second angle stdev: 21.11858

159.19 120.1

56.85 99.26

left shoulder L\_shoulder -122.43095 -108.97887 1879.7245

right shoulder R\_shoulder -266.62057 -130.57965 2164.63

144.18964

first angle mean: 141.94495

first angle stdev: 16.225157

second angle mean: 92.54406

second angle stdev: 21.215193

161.35 106.76

51.09 117.27

left shoulder L\_shoulder -132.38942 -109.12926 1870.5488

right shoulder R\_shoulder -267.17126 -133.74371 2189.1936

134.78185

first angle mean: 142.03961

first angle stdev: 16.241905

second angle mean: 92.34184

second angle stdev: 21.359554

counter:1

158.62 101.59

48.57 130.78

left shoulder L\_shoulder -130.9957 -108.69517 1865.0662

right shoulder R\_shoulder -265.28723 -133.94495 2208.8792

134.29153

first angle mean: 142.12009

first angle stdev: 16.243366

second angle mean: 92.129364

second angle stdev: 21.523745

157.19 102.26

52.06 130.45

left shoulder L\_shoulder -111.310135 -109.66255 1859.0327

right shoulder R\_shoulder -272.03445 -132.70099 2193.575

160.72432

first angle mean: 142.1929

first angle stdev: 16.237738

second angle mean: 91.93579

second angle stdev: 21.65069

157.08 102.19

53.25 129.91

left shoulder L\_shoulder -95.579895 -109.69506 1858.3835

right shoulder R\_shoulder -280.97537 -128.6354 2181.1177

185.39548

first angle mean: 142.26447

first angle stdev: 16.231356

second angle mean: 91.74981

second angle stdev: 21.763718

156.32 102.0

54.6 129.64

left shoulder L\_shoulder -77.12012 -114.363434 1877.6539

right shoulder R\_shoulder -294.2817 -123.19726 2180.2473

217.16159

first angle mean: 142.33173

first angle stdev: 16.2215

second angle mean: 91.57206

second angle stdev: 21.862406

154.16 99.22

45.76 133.08

left shoulder L\_shoulder -60.035625 -122.09602 1920.7295

right shoulder R\_shoulder -307.60233 -118.054344 2196.2087

247.5667

first angle mean: 142.38805

first angle stdev: 16.203304

second angle mean: 91.353905

second angle stdev: 22.037132

144.45 86.47

40.9 137.14

left shoulder L\_shoulder -44.17329 -123.41974 1935.6439

right shoulder R\_shoulder -312.60083 -114.27334 2184.6465

268.42755

first angle mean: 142.39783

first angle stdev: 16.165483

second angle mean: 91.11479

second angle stdev: 22.256254

135.6 78.34

41.55 139.28

left shoulder L\_shoulder -19.779682 -126.35331 1947.4171

right shoulder R\_shoulder -317.18744 -111.81059 2155.2288

297.40775

first angle mean: 142.36575

first angle stdev: 16.134037

second angle mean: 90.88099

second angle stdev: 22.46192

144.09 129.38

55.34 112.16

left shoulder L\_shoulder 4.2367573 -127.288666 1955.1029

right shoulder R\_shoulder -321.30508 -112.850975 2094.3394

325.54184

first angle mean: 142.37384

first angle stdev: 16.09655

second angle mean: 90.71413

second angle stdev: 22.540443

138.7 139.41

57.23 111.07

left shoulder L\_shoulder 20.424921 -118.09995 1977.72

right shoulder R\_shoulder -323.48935 -100.95182 2053.2444

343.91428

first angle mean: 142.35669

first angle stdev: 16.060852

second angle mean: 90.55766

second angle stdev: 22.603363

133.24 128.24

62.77 109.44

left shoulder L\_shoulder 26.777092 -114.45734 1994.1201

right shoulder R\_shoulder -323.37408 -94.97288 2017.7078

350.15118

first angle mean: 142.31429

first angle stdev: 16.035458

second angle mean: 90.42841

second angle stdev: 22.629856

137.82 114.42

75.91 110.37

left shoulder L\_shoulder 31.671755 -114.7816 2006.052

right shoulder R\_shoulder -316.53906 -94.23396 1995.572

348.21082

first angle mean: 142.29347

first angle stdev: 16.001205

second angle mean: 90.3612

second angle stdev: 22.598915

148.11 107.51

89.54 104.81

left shoulder L\_shoulder 31.217022 -120.98954 2005.8229

right shoulder R\_shoulder -316.549 -101.3409 1985.7565

347.76602

first angle mean: 142.32028

first angle stdev: 15.969154

second angle mean: 90.35742

second angle stdev: 22.546852

148.51 98.76

94.71 102.59

left shoulder L\_shoulder 22.429005 -119.82952 2012.096

right shoulder R\_shoulder -322.235 -102.66158 1969.8933

344.664

first angle mean: 142.34866

first angle stdev: 15.937974

second angle mean: 90.37738

second angle stdev: 22.497002

134.45 111.86

95.01 92.18

left shoulder L\_shoulder 17.9117 -118.93605 2015.3103

right shoulder R\_shoulder -323.71124 -102.461296 1955.2133

341.62296

first angle mean: 142.31259

first angle stdev: 15.9104595

second angle mean: 90.398544

second angle stdev: 22.447752

124.11 128.94

95.08 88.89

left shoulder L\_shoulder 18.653526 -118.371994 2007.9358

right shoulder R\_shoulder -317.1784 -104.290886 1932.5555

335.83194

first angle mean: 142.22986

first angle stdev: 15.921411

second angle mean: 90.419815

second angle stdev: 22.398891

124.32 136.81

97.64 86.24

left shoulder L\_shoulder 20.75887 -113.23612 1989.9681

right shoulder R\_shoulder -314.62503 -101.39687 1928.4011

335.3839

first angle mean: 142.14882

first angle stdev: 15.930759

second angle mean: 90.45249

second angle stdev: 22.35341

114.86 137.44

104.6 75.16

left shoulder L\_shoulder 23.409784 -105.703575 1936.6621

right shoulder R\_shoulder -316.52237 -99.86471 1946.1238

339.93216

first angle mean: 142.0259

first angle stdev: 15.999537

second angle mean: 90.51621

second angle stdev: 22.32312

108.22 135.83

103.14 75.16

left shoulder L\_shoulder 20.881117 -102.84801 1920.765

right shoulder R\_shoulder -314.9763 -103.7871 1970.2117

335.8574

first angle mean: 141.8743

first angle stdev: 16.12263

second angle mean: 90.572815

second angle stdev: 22.288977

98.68 122.84

101.41 75.38

left shoulder L\_shoulder 15.250729 -99.504745 1886.8124

right shoulder R\_shoulder -309.81024 -113.311264 1983.4318

325.06097

first angle mean: 141.68147

first angle stdev: 16.3423

second angle mean: 90.62121

second angle stdev: 22.2509

97.96 119.25

96.57 81.05

left shoulder L\_shoulder 19.388632 -99.94536 1893.6128

right shoulder R\_shoulder -308.96774 -116.18587 1973.0756

328.35638

first angle mean: 141.48715

first angle stdev: 16.563269

second angle mean: 90.647644

second angle stdev: 22.204926

102.92 131.1

90.91 86.9

left shoulder L\_shoulder 27.04665 -108.604355 1927.474

right shoulder R\_shoulder -309.07327 -110.53133 1961.2623

336.11993

first angle mean: 141.3165

first angle stdev: 16.723648

second angle mean: 90.64881

second angle stdev: 22.155752

122.35 134.29

87.57 88.7

left shoulder L\_shoulder 31.299442 -112.37461 1963.2866

right shoulder R\_shoulder -306.2514 -107.545555 1960.2946

337.55084

first angle mean: 141.23294

first angle stdev: 16.733978

second angle mean: 90.63525

second angle stdev: 22.107838

132.31 127.8

87.98 86.84

left shoulder L\_shoulder 34.457077 -112.7519 1981.6754

right shoulder R\_shoulder -303.00446 -106.07169 1956.8477

337.46155

first angle mean: 141.1938

first angle stdev: 16.70765

second angle mean: 90.623604

second angle stdev: 22.06

136.37 126.31

87.14 87.16

left shoulder L\_shoulder 36.22484 -113.78812 1992.5262

right shoulder R\_shoulder -300.095 -104.21282 1946.9829

336.31982

first angle mean: 141.17273

first angle stdev: 16.674164

second angle mean: 90.60838

second angle stdev: 22.01298

139.91 robot count: 2

125.25

88.52 86.42

left shoulder L\_shoulder 37.684753 -113.93879 1994.4896

right shoulder R\_shoulder -299.03967 -105.24916 1948.0

336.72443

first angle mean: 141.16725

first angle stdev: 16.638083

second angle mean: 90.599304

second angle stdev: 21.965502

133.16 127.84

92.99 84.34

left shoulder L\_shoulder 40.151733 -110.1696 1987.9023

right shoulder R\_shoulder -299.53406 -109.04932 1968.476

339.6858

first angle mean: 141.13258

first angle stdev: 16.610353

second angle mean: 90.609665

second angle stdev: 21.91847

126.35 133.81

97.31 83.79

left shoulder L\_shoulder 38.853077 -102.83251 1967.2174

right shoulder R\_shoulder -299.28015 -108.721016 1968.5725

338.13324

first angle mean: 141.06888

first angle stdev: 16.602783

second angle mean: 90.638535

second angle stdev: 21.875586

131.32 145.66

106.61 75.16

left shoulder L\_shoulder 34.76664 -97.63256 1931.4474

right shoulder R\_shoulder -299.4669 -110.816 1993.9142

334.23352

first angle mean: 141.02704

first angle stdev: 16.579369

second angle mean: 90.707085

second angle stdev: 21.853546

136.39 152.61

108.45 68.36

left shoulder L\_shoulder 30.931667 -97.052155 1890.7986

right shoulder R\_shoulder -294.38565 -111.111015 1992.8834

325.31732

first angle mean: 141.00723

first angle stdev: 16.54667

second angle mean: 90.78291

second angle stdev: 21.837494

128.99 154.95

102.26 69.31

left shoulder L\_shoulder 29.528605 -101.29952 1932.5668

right shoulder R\_shoulder -299.4904 -108.63983 2011.0707

329.01898

first angle mean: 140.95609

first angle stdev: 16.529947

second angle mean: 90.83175

second angle stdev: 21.803785

129.22 150.78

104.79 62.29

left shoulder L\_shoulder 33.47702 -100.071815 1925.3218

right shoulder R\_shoulder -294.40118 -109.34152 2014.8616

327.8782

first angle mean: 140.90637

first angle stdev: 16.512497

second angle mean: 90.89089

second angle stdev: 21.776424

141.84 146.55

107.76 59.34

left shoulder L\_shoulder 38.377834 -102.39568 1950.7545

right shoulder R\_shoulder -290.3755 -112.30182 2014.822

328.75333

first angle mean: 140.91031

first angle stdev: 16.477734

second angle mean: 90.962074

second angle stdev: 21.757927

149.04 142.83

110.3 52.83

left shoulder L\_shoulder 40.819454 -106.50526 1990.0339

right shoulder R\_shoulder -285.90417 -113.88375 2000.8588

326.72363

first angle mean: 140.94446

first angle stdev: 16.451487

second angle mean: 91.04332

second angle stdev: 21.74817

151.68 143.17

110.47 50.8

left shoulder L\_shoulder 33.888958 -111.274925 2049.878

right shoulder R\_shoulder -281.10623 -114.66367 2003.4365

314.99518

first angle mean: 140.98938

first angle stdev: 16.431652

second angle mean: 91.12461

second angle stdev: 21.738821

142.79 146.56

104.0 54.9

left shoulder L\_shoulder 19.889362 -115.17607 2139.8633

right shoulder R\_shoulder -254.96132 -116.028694 1979.195

274.85068

first angle mean: 140.99687

first angle stdev: 16.397795

second angle mean: 91.17825

second angle stdev: 21.709333

139.96 150.57

103.93 61.7

left shoulder L\_shoulder -7.0589485 -117.26491 2194.7476

right shoulder R\_shoulder -189.7762 -114.58563 1916.0557

182.71725

first angle mean: 140.99257

first angle stdev: 16.363874

second angle mean: 91.23116

second angle stdev: 21.679747

141.89 151.67

106.49 59.05

left shoulder L\_shoulder -22.131763 -117.68074 2198.7554

right shoulder R\_shoulder -151.65749 -109.020935 1885.6791

129.52573

first angle mean: 140.99629

first angle stdev: 16.33013

second angle mean: 91.29421

second angle stdev: 21.657042

124.41 154.08

118.24 53.85

left shoulder L\_shoulder -29.578571 -119.33947 2197.353

right shoulder R\_shoulder -143.86964 -108.42574 1873.9976

114.29108

first angle mean: 140.92802

first angle stdev: 16.33105

second angle mean: 91.405106

second angle stdev: 21.681166

135.6 155.15

107.92 51.82

left shoulder L\_shoulder -31.520147 -117.7627 2202.114

right shoulder R\_shoulder -145.4581 -106.430244 1876.2083

113.93795

first angle mean: 140.90619

first angle stdev: 16.301105

second angle mean: 91.472786

second angle stdev: 21.662401

141.11 153.54

103.34 52.29

left shoulder L\_shoulder -24.218401 -117.53607 2197.4917

right shoulder R\_shoulder -147.29721 -106.31786 1874.5819

123.07881

first angle mean: 140.90701

first angle stdev: 16.267807

second angle mean: 91.521225

second angle stdev: 21.631382

139.7 153.16

104.64 52.14

left shoulder L\_shoulder -21.495684 -119.28793 2196.762

right shoulder R\_shoulder -148.88284 -107.121635 1875.3505

127.38716

first angle mean: 140.90211

first angle stdev: 16.234894

second angle mean: 91.574554

second angle stdev: 21.603504

135.82 154.14

107.13 53.04

left shoulder L\_shoulder -21.802681 -116.63118 2194.8845

right shoulder R\_shoulder -150.95229 -104.097626 1870.726

129.1496

first angle mean: 140.88155

first angle stdev: 16.205208

second angle mean: 91.63753

second angle stdev: 21.582344

136.34 155.38

108.84 53.03

left shoulder L\_shoulder -21.162258 -115.79832 2194.685

right shoulder R\_shoulder -155.5084 -102.735405 1872.3616

134.34615

first angle mean: 140.86322

first angle stdev: 16.175064

second angle mean: 91.706894

second angle stdev: 21.566359

134.65 156.58

114.46 53.76

left shoulder L\_shoulder -21.536045 -117.94789 2199.1917

right shoulder R\_shoulder -159.28656 -104.29639 1878.0117

137.75052

first angle mean: 140.83827

first angle stdev: 16.147333

second angle mean: 91.79827

second angle stdev: 21.571062

142.05 154.59

112.05 53.29

left shoulder L\_shoulder -13.943554 -118.39114 2200.6091

right shoulder R\_shoulder -168.04428 -107.450775 1885.3251

154.10072

first angle mean: 140.84312

first angle stdev: 16.115189

second angle mean: 91.87928

second angle stdev: 21.565792

152.32 151.72

109.14 54.92

left shoulder L\_shoulder -4.4373198 -115.84149 2196.9534

right shoulder R\_shoulder -182.51848 -110.55126 1894.0647

178.08116

first angle mean: 140.88885

first angle stdev: 16.099295

second angle mean: 91.948044

second angle stdev: 21.550238

156.92 147.43

104.97 50.81

left shoulder L\_shoulder 0.7768652 -106.05412 2178.1528

right shoulder R\_shoulder -206.9575 -104.81363 1894.2755

207.73438

first angle mean: 140.95245

first angle stdev: 16.0989

second angle mean: 91.99972

second angle stdev: 21.523012

162.63 145.72

105.79 48.69

left shoulder L\_shoulder 11.10802 -112.4473 2161.8093

right shoulder R\_shoulder -224.0201 -119.48485 1900.0497

235.12811

first angle mean: 141.03813

first angle stdev: 16.124521

second angle mean: 92.05422

second angle stdev: 21.497854

162.23 143.83

108.35 49.87

left shoulder L\_shoulder 17.00589 -98.51161 2149.023

right shoulder R\_shoulder -245.47552 -101.75131 1914.5363

262.4814

first angle mean: 141.12157

first angle stdev: 16.147375

second angle mean: 92.118385

second angle stdev: 21.47975

151.61 142.87

112.09 54.06

left shoulder L\_shoulder 28.754313 -97.0066 2124.783

right shoulder R\_shoulder -262.9458 -101.90948 1928.3452

291.7001

first angle mean: 141.16272

first angle stdev: 16.12901

second angle mean: 92.19671

second angle stdev: 21.473898

128.12 143.93

111.21 60.17

left shoulder L\_shoulder 41.35133 -96.93711 2082.8123

right shoulder R\_shoulder -284.77145 -103.80952 1953.9188

326.12277

first angle mean: 141.11176

first angle stdev: 16.118021

second angle mean: 92.27097

second angle stdev: 21.464706

131.75 143.91

110.71 62.34

left shoulder L\_shoulder 47.95333 -96.05381 2044.182

right shoulder R\_shoulder -294.60516 -104.24602 1972.0072

342.5585

first angle mean: 141.07533

first angle stdev: 16.097189

second angle mean: 92.34273

second angle stdev: 21.45364

140.79 146.72

114.91 63.26

left shoulder L\_shoulder 42.501167 -87.893005 1968.359

right shoulder R\_shoulder -306.33127 -97.37345 1997.3008

348.83243

first angle mean: 141.07422

first angle stdev: 16.065971

second angle mean: 92.43019

second angle stdev: 21.457891

137.58 150.07

115.72 68.66

left shoulder L\_shoulder 30.559944 -87.54092 1923.218

right shoulder R\_shoulder -306.7004 -96.16947 2014.9717

337.26035

first angle mean: 141.06073

first angle stdev: 16.03639

second angle mean: 92.52012

second angle stdev: 21.465076

118.15 134.53

102.72 80.82

left shoulder L\_shoulder 24.05332 -92.36997 1910.6685

right shoulder R\_shoulder -304.91724 -98.87297 1990.8165

328.97055

first angle mean: 140.97261

first angle stdev: 16.068224

second angle mean: 92.55934

second angle stdev: 21.433058

99.55 95.23

100.24 81.02

left shoulder L\_shoulder 31.262104 -92.22574 1824.2585

right shoulder R\_shoulder -289.6957 -101.187836 1917.9375

320.95782

first angle mean: 140.8139

first angle stdev: 16.240303

second angle mean: 92.58878

second angle stdev: 21.397223

104.31 85.1

95.95 86.02

left shoulder L\_shoulder 41.430935 -91.677826 1809.5048

right shoulder R\_shoulder -286.3508 -99.36904 1872.1569

327.78174

first angle mean: 140.67458

first angle stdev: 16.36482

second angle mean: 92.60161

second angle stdev: 21.357353

109.77 95.52

93.23 87.91

left shoulder L\_shoulder 45.23486 -100.21976 1822.1182

right shoulder R\_shoulder -286.72665 -94.14082 1854.3942

331.96152

first angle mean: 140.55707

first angle stdev: 16.444052

second angle mean: 92.604

second angle stdev: 21.316746

121.06 99.97

95.28 84.08

left shoulder L\_shoulder 43.796368 -104.83131 1834.8729

right shoulder R\_shoulder -288.75623 -93.075134 1856.0311

332.55258

first angle mean: 140.48322

first angle stdev: 16.456518

second angle mean: 92.61413

second angle stdev: 21.27697

131.2 108.78

97.43 81.57

left shoulder L\_shoulder 38.672836 -101.527695 1847.614

right shoulder R\_shoulder -293.65042 -91.24485 1845.0906

332.32324

first angle mean: 140.44818

first angle stdev: 16.435299

second angle mean: 92.6323

second angle stdev: 21.23884

131.45 100.8

101.34 79.51

left shoulder L\_shoulder 35.82836 -102.63552 1839.2584

right shoulder R\_shoulder -293.78253 -85.70711 1846.428

329.6109

first angle mean: 140.41435

first angle stdev: 16.413616

second angle mean: 92.66504

second angle stdev: 21.205576

123.8 100.65

101.14 79.07

left shoulder L\_shoulder 35.91857 -101.08836 1817.4799

right shoulder R\_shoulder -290.4572 -84.15989 1827.2719

326.3758

first angle mean: 140.35213

first angle stdev: 16.414255

second angle mean: 92.69678

second angle stdev: 21.17216

118.6 110.9

102.19 75.01

left shoulder L\_shoulder 38.047394 -99.74971 1795.055

right shoulder R\_shoulder -287.30246 -81.784065 1816.1581

325.34985

first angle mean: 140.27097

first angle stdev: 16.437195

second angle mean: 92.7322

second angle stdev: 21.140547

120.92 117.58

103.0 70.92

left shoulder L\_shoulder 40.488243 -101.08715 1788.8207

right shoulder R\_shoulder -285.28278 -83.5727 1812.0511

325.77103

first angle mean: 140.19904

first angle stdev: 16.448824

second angle mean: 92.77037

second angle stdev: 21.110466

104.98 107.19

99.92 72.27

left shoulder L\_shoulder 40.631836 -96.023285 1743.5939

right shoulder R\_shoulder -279.53885 -82.28955 1747.2585

320.1707

first angle mean: 140.06859

first angle stdev: 16.557135

second angle mean: 92.79685

second angle stdev: 21.075811

113.21 103.47

100.18 75.96

left shoulder L\_shoulder 39.57173 -97.75536 1765.1552

right shoulder R\_shoulder -280.26248 -81.8169 1773.6982

319.83423

first angle mean: 139.96947

first angle stdev: 16.606602

second angle mean: 92.8241

second angle stdev: 21.041653

121.43 83.45

91.35 85.1

left shoulder L\_shoulder 33.955467 -101.969376 1803.4185

right shoulder R\_shoulder -285.6443 -85.03427 1811.3174

319.59976

first angle mean: 139.90132

first angle stdev: 16.613981

second angle mean: 92.81867

second angle stdev: 21.003128

135.3 86.11

96.67 90.66

left shoulder L\_shoulder 26.796743 -105.85993 1845.1318

right shoulder R\_shoulder -292.57355 -88.942924 1857.9247

319.3703

first angle mean: 139.88448

first angle stdev: 16.585854

second angle mean: 92.83279

second angle stdev: 20.965916

155.33 86.48

92.5 100.18

left shoulder L\_shoulder 19.877714 -105.321815 1950.4514

right shoulder R\_shoulder -297.4639 -97.60446 1913.6287

317.3416

first angle mean: 139.94084

first angle stdev: 16.58174

second angle mean: 92.83157

second angle stdev: 20.927631

158.99 81.32

82.78 103.25

left shoulder L\_shoulder 15.901698 -112.137 2016.8383

right shoulder R\_shoulder -296.51892 -102.63111 1950.4489

312.42062

first angle mean: 140.01012

first angle stdev: 16.591232

second angle mean: 92.79501

second angle stdev: 20.898306

151.58 85.27

74.21 100.24

left shoulder L\_shoulder 18.964426 -112.773125 2002.2798

right shoulder R\_shoulder -296.99005 -100.67303 1956.5803

315.95447

first angle mean: 140.05203

first angle stdev: 16.575731

second angle mean: 92.727684

second angle stdev: 20.890278

153.38 118.33

67.46 102.32

left shoulder L\_shoulder 14.185639 -115.354195 2009.0406

right shoulder R\_shoulder -296.65967 -98.79782 1936.1409

310.8453

first angle mean: 140.10016

first angle stdev: 16.565083

second angle mean: 92.63647

second angle stdev: 20.907532

152.76 136.74

67.63 103.9

left shoulder L\_shoulder 9.702072 -113.58849 2009.1727

right shoulder R\_shoulder -305.5306 -97.95634 1958.8005

315.23267

first angle mean: 140.14569

first angle stdev: 16.552622

second angle mean: 92.54651

second angle stdev: 20.923521

149.37 147.19

60.46 107.01

left shoulder L\_shoulder 0.9836259 -114.40469 1960.9479

right shoulder R\_shoulder -310.61285 -98.5645 1915.2488

311.59647

first angle mean: 140.17876

first angle stdev: 16.532125

second angle mean: 92.43151

second angle stdev: 20.973827

148.23 146.76

57.91 105.42

left shoulder L\_shoulder -6.4922867 -118.413635 1933.8312

right shoulder R\_shoulder -314.59357 -106.56648 1913.265

308.1013

first angle mean: 140.2075

first angle stdev: 16.509565

second angle mean: 92.30822

second angle stdev: 21.037382

152.07 143.94

56.85 102.81

left shoulder L\_shoulder -16.974957 -118.37251 1920.3876

right shoulder R\_shoulder -312.93063 -115.842606 1946.5667

295.9557

first angle mean: 140.24973

first angle stdev: 16.495295

second angle mean: 92.18202

second angle stdev: 21.1058

156.7 133.28

59.07 104.74

left shoulder L\_shoulder -30.61211 -117.035324 1928.0879

right shoulder R\_shoulder -306.8453 -121.35753 2006.3732

276.2332

first angle mean: 140.30806

first angle stdev: 16.495031

second angle mean: 92.064606

second angle stdev: 21.16009

159.12 110.97

61.01 126.7

left shoulder L\_shoulder -49.99452 -115.41207 1914.1838

right shoulder R\_shoulder -302.58112 -124.40514 2047.2703

252.5866

first angle mean: 140.37453

first angle stdev: 16.503658

second angle mean: 91.95488

second angle stdev: 21.202898

156.8 104.76

56.49 132.57

left shoulder L\_shoulder -78.31404 -113.04895 1898.6099

right shoulder R\_shoulder -297.50406 -123.59053 2073.2004

219.19002

first angle mean: 140.43237

first angle stdev: 16.503283

second angle mean: 91.829994

second angle stdev: 21.269533

165.08 101.19

55.45 125.71

left shoulder L\_shoulder -95.13995 -107.55376 1862.5509

right shoulder R\_shoulder -289.90692 -125.408844 2055.2993

194.76697

first angle mean: 140.51884

first angle stdev: 16.538645

second angle mean: 91.70235

second angle stdev: 21.340883

counter:2

157.79 138.63

65.88 106.02

left shoulder L\_shoulder -136.05412 -109.91102 1854.8304

right shoulder R\_shoulder -287.53967 -130.08745 2139.6814

151.48555

first angle mean: 140.57924

first angle stdev: 16.541153

second angle mean: 91.61207

second angle stdev: 21.358

154.89 141.88

64.27 99.16

left shoulder L\_shoulder -141.985 -114.20446 1867.7979

right shoulder R\_shoulder -286.11215 -126.89978 2166.866

144.12715

first angle mean: 140.62909

first angle stdev: 16.533829

second angle mean: 91.51679

second angle stdev: 21.381546

154.67 139.82

60.55 100.97

left shoulder L\_shoulder -142.70007 -114.766045 1872.9763

right shoulder R\_shoulder -286.46783 -123.657585 2177.054

143.76776

first angle mean: 140.67784

first angle stdev: 16.525751

second angle mean: 91.40927

second angle stdev: 21.42198

155.53 141.35

62.7 104.09

left shoulder L\_shoulder -142.0374 -116.68347 1880.016

right shoulder R\_shoulder -288.7183 -124.63126 2191.0225

146.6809

first angle mean: 140.72923

first angle stdev: 16.520174

second angle mean: 91.30993

second angle stdev: 21.451233

155.62 141.96

61.14 103.09

left shoulder L\_shoulder -134.18425 -118.56864 1876.3779

right shoulder R\_shoulder -288.7792 -126.48177 2187.5269

154.59496

first angle mean: 140.7806

first angle stdev: 16.514751

second angle mean: 91.2059

second angle stdev: 21.487125

156.59 134.7

64.43 110.66

left shoulder L\_shoulder -122.861786 -115.29759 1859.6691

right shoulder R\_shoulder -286.59735 -129.75462 2184.8867

163.73557

first angle mean: 140.83492

first angle stdev: 16.51229

second angle mean: 91.113884

second angle stdev: 21.50733

156.23 135.43

55.33 109.5

left shoulder L\_shoulder -111.63778 -113.4771 1879.9631

right shoulder R\_shoulder -294.8388 -127.6603 2199.8208

183.20102

first angle mean: 140.88763

first angle stdev: 16.508507

second angle mean: 90.99134

second angle stdev: 21.572004

154.2 142.14

48.06 108.66

left shoulder L\_shoulder -87.413345 -114.00897 1895.5308

right shoulder R\_shoulder -308.97955 -122.44831 2189.6592

221.56621

first angle mean: 140.93307

first angle stdev: 16.49859

second angle mean: 90.84482

second angle stdev: 21.680223

150.82 144.88

46.67 108.26

left shoulder L\_shoulder -58.77396 -114.26766 1893.2246

right shoulder R\_shoulder -319.91278 -117.66211 2141.9734

261.13882

first angle mean: 140.9667

first angle stdev: 16.480564

second angle mean: 90.694565

second angle stdev: 21.7956

143.06 143.0

53.52 110.56

left shoulder L\_shoulder -35.402344 -117.11327 1910.1991

right shoulder R\_shoulder -338.261 -108.142204 2063.076

302.85864

first angle mean: 140.9738

first angle stdev: 16.453056

second angle mean: 90.56854

second angle stdev: 21.865648

140.8 140.11

63.73 110.39

left shoulder L\_shoulder -32.49399 -120.43414 1947.8485

right shoulder R\_shoulder -352.30423 -100.037834 2036.05

319.81024

first angle mean: 140.9732

first angle stdev: 16.425243

second angle mean: 90.477875

second angle stdev: 21.884163

117.31 143.4

65.37 114.0

left shoulder L\_shoulder -36.776722 -125.73047 1988.3109

right shoulder R\_shoulder -358.03293 -93.72562 2011.1259

321.2562

first angle mean: 140.89354

first angle stdev: 16.454763

second angle mean: 90.39333

second angle stdev: 21.89565

113.26 118.66

79.92 113.77

left shoulder L\_shoulder -48.27097 -127.32467 1999.2295

right shoulder R\_shoulder -358.9852 -88.85562 2002.4244

310.71423

first angle mean: 140.80081

first angle stdev: 16.50468

second angle mean: 90.35819

second angle stdev: 21.867271

107.43 103.0

89.63 109.63

left shoulder L\_shoulder -57.820053 -125.46849 1999.5404

right shoulder R\_shoulder -363.0568 -89.06538 1978.3284

305.23676

first angle mean: 140.6892

first angle stdev: 16.589317

second angle mean: 90.35576

second angle stdev: 21.830713

97.73 88.73

90.81 99.94

left shoulder L\_shoulder -64.10052 -124.741455 1987.8057

right shoulder R\_shoulder -368.3119 -89.40527 1951.3735

304.21136

first angle mean: 140.54599

first angle stdev: 16.745724

second angle mean: 90.35727

second angle stdev: 21.794315

85.48 84.76

98.84 86.68

left shoulder L\_shoulder -62.481777 -126.65613 1977.1359

right shoulder R\_shoulder -368.98404 -92.86128 1935.349

306.50226

first angle mean: 140.36307

first angle stdev: 17.015526

second angle mean: 90.385445

second angle stdev: 21.763557

108.82 110.11

107.82 74.13

left shoulder L\_shoulder -50.858532 -125.71857 1924.8011

right shoulder R\_shoulder -367.72794 -95.28935 1926.9032

316.86942

first angle mean: 140.25862

first angle stdev: 17.083708

second angle mean: 90.44318

second angle stdev: 21.750566

114.03 119.8

111.47 70.19

left shoulder L\_shoulder -35.098522 -119.45931 1875.9711

right shoulder R\_shoulder -357.8536 -94.77281 1931.1381

322.7551

first angle mean: 140.17206

first angle stdev: 17.121706

second angle mean: 90.51257

second angle stdev: 21.748106

124.82 129.01

107.56 73.18

left shoulder L\_shoulder -16.795382 -112.92117 1846.0442

right shoulder R\_shoulder -340.30215 -95.867165 1935.2899

323.50677

first angle mean: 140.12154

first angle stdev: 17.11611

second angle mean: 90.56866

second angle stdev: 21.73424

129.08 130.64

103.25 76.0

left shoulder L\_shoulder -5.0612535 -108.739586 1836.8313

right shoulder R\_shoulder -327.50632 -96.73647 1939.7833

322.44507

first angle mean: 140.08534

first angle stdev: 17.099682

second angle mean: 90.61023

second angle stdev: 21.710686

130.23 128.99

98.92 77.37

left shoulder L\_shoulder 7.3399096 -107.45314 1833.0785

right shoulder R\_shoulder -316.38983 -96.28572 1941.4628

323.72974

first angle mean: 140.05313

first angle stdev: 17.08098

second angle mean: 90.63739

second angle stdev: 21.680372

128.38 127.9

93.0 82.2

left shoulder L\_shoulder 19.590317 -110.95593 1871.7632

right shoulder R\_shoulder -313.6553 -96.95724 1946.1062

333.2456

first angle mean: 140.01512

first angle stdev: 17.066107

second angle mean: 90.64509

second angle stdev: 21.64545

125.92 121.8

90.07 84.67

left shoulder L\_shoulder 26.751148 -113.57626 1900.377

right shoulder R\_shoulder -312.3127 -97.4652 1937.9216

339.06387

first angle mean: 139.96935

first angle stdev: 17.057236

second angle mean: 90.64321

second angle stdev: 21.610308

120.09 117.08

88.75 85.24

left shoulder L\_shoulder 27.465912 -114.94199 1939.2083

right shoulder R\_shoulder -313.50308 -98.23508 1949.4814

340.969

first angle mean: 139.90501

first angle stdev: 17.067

second angle mean: 90.637085

second angle stdev: 21.575579

114.66 114.15

89.52 84.84

left shoulder L\_shoulder 31.20245 -116.2235 1976.3367

right shoulder R\_shoulder -308.07513 -103.411606 1966.7859

339.2776

first angle mean: 139.82358

first angle stdev: 17.099476

second angle mean: 90.633484

second angle stdev: 21.540844

122.53 125.33

91.19 85.13

left shoulder L\_shoulder 31.96988 -115.710304 2000.8485

right shoulder R\_shoulder -306.7324 -108.30903 1976.434

338.70227

first angle mean: 139.76797

first angle stdev: 17.100014

second angle mean: 90.63528

second angle stdev: 21.506208

128.12 134.23

97.9 83.79

left shoulder L\_shoulder 27.8067 -114.58385 1998.6526

right shoulder R\_shoulder -310.83972 -108.61921 1982.8351

338.64642

first angle mean: 139.73064

first angle stdev: 17.085278

second angle mean: 90.65856

second angle stdev: 21.475643

119.91 138.65

107.85 74.52

left shoulder L\_shoulder 24.576809 -111.686806 1968.3782

right shoulder R\_shoulder -313.25235 -106.9498 1989.5304

337.82916

first angle mean: 139.66731

first angle stdev: 17.094597

second angle mean: 90.713486

second angle stdev: 21.463245

106.03 136.7

106.0 76.35

left shoulder L\_shoulder 29.1515 -100.424286 1833.0948

right shoulder R\_shoulder -299.1482 -104.66699 1866.1072

328.29968

first angle mean: 139.56018

first angle stdev: 17.17226

second angle mean: 90.76217

second angle stdev: 21.446344

116.56 138.58

105.3 71.39

left shoulder L\_shoulder 24.800123 -87.50938 1822.8716

right shoulder R\_shoulder -296.7446 -101.171715 1869.0696

321.5447

first angle mean: 139.48718

first angle stdev: 17.193731

second angle mean: 90.80832

second angle stdev: 21.427887

131.82 142.21

105.31 66.32

left shoulder L\_shoulder 24.513718 -82.82436 1857.2007

right shoulder R\_shoulder -293.26184 -101.5548 1924.2367

317.77557

first angle mean: 139.46292

first angle stdev: 17.171906

second angle mean: 90.85421

second angle stdev: 21.409454

145.94 145.64

107.81 61.46

left shoulder L\_shoulder 30.205582 -89.03058 1910.4435

right shoulder R\_shoulder -288.96518 -106.629265 1973.3789

319.17078

first angle mean: 139.48334

first angle stdev: 17.148645

second angle mean: 90.9077

second angle stdev: 21.396795

robot count: 3149.0

147.09

107.81 57.76

left shoulder L\_shoulder 39.710823 -95.91863 1952.9266

right shoulder R\_shoulder -282.62036 -113.12024 1997.1248

322.33118

first angle mean: 139.51326

first angle stdev: 17.12995

second angle mean: 90.96085

second angle stdev: 21.384075

156.94 148.62

106.83 54.58

left shoulder L\_shoulder 40.150166 -105.50057 2029.9532

right shoulder R\_shoulder -276.6732 -116.082664 2008.4686

316.82336

first angle mean: 139.5679

first angle stdev: 17.130802

second angle mean: 91.0106

second angle stdev: 21.368952

161.48 147.98

103.84 52.24

left shoulder L\_shoulder 37.809635 -116.39345 2095.5894

right shoulder R\_shoulder -256.82016 -123.48882 1995.9381

294.6298

first angle mean: 139.63638

first angle stdev: 17.147684

second angle mean: 91.05069

second angle stdev: 21.347551

155.11 148.22

99.95 55.77

left shoulder L\_shoulder 20.625937 -126.358986 2155.654

right shoulder R\_shoulder -227.96922 -129.07208 1968.4462

248.59515

first angle mean: 139.68459

first angle stdev: 17.142654

second angle mean: 91.078415

second angle stdev: 21.320042

145.36 150.51

99.28 58.16

left shoulder L\_shoulder -2.9067764 -134.89429 2188.4827

right shoulder R\_shoulder -192.61916 -131.22452 1939.8479

189.71237

first angle mean: 139.70221

first angle stdev: 17.118927

second angle mean: 91.10388

second angle stdev: 21.291803

132.06 152.85

101.26 59.67

left shoulder L\_shoulder -26.108496 -139.57872 2204.6511

right shoulder R\_shoulder -155.82918 -131.56053 1911.3705

129.72069

first angle mean: 139.67854

first angle stdev: 17.09768

second angle mean: 91.13533

second angle stdev: 21.266302

125.88 153.2

104.32 57.47

left shoulder L\_shoulder -40.996452 -139.85287 2203.0767

right shoulder R\_shoulder -129.65013 -129.76273 1890.8811

88.65368

first angle mean: 139.63596

first angle stdev: 17.088423

second angle mean: 91.176025

second angle stdev: 21.246052

132.25 153.55

105.09 54.32

left shoulder L\_shoulder -56.62508 -140.05681 2209.441

right shoulder R\_shoulder -109.104805 -126.73844 1876.564

52.479725

first angle mean: 139.61324

first angle stdev: 17.067017

second angle mean: 91.218834

second angle stdev: 21.227331

133.78 155.78

119.55 52.51

left shoulder L\_shoulder -54.54801 -136.5001 2183.305

right shoulder R\_shoulder -102.854065 -121.65616 1856.3776

48.306053

first angle mean: 139.59534

first angle stdev: 17.043873

second angle mean: 91.30573

second angle stdev: 21.252575

124.41 155.79

116.69 52.1

left shoulder L\_shoulder -49.770462 -131.82121 2193.847

right shoulder R\_shoulder -106.7607 -121.2701 1864.156

56.990234

first angle mean: 139.5489

first angle stdev: 17.038435

second angle mean: 91.38336

second angle stdev: 21.266294

134.78 156.69

111.89 51.82

left shoulder L\_shoulder -42.308006 -130.42874 2193.1304

right shoulder R\_shoulder -113.33723 -121.70042 1864.1743

71.02922

first angle mean: 139.53436

first angle stdev: 17.014473

second angle mean: 91.445885

second angle stdev: 21.263927

142.31 156.97

110.25 52.42

left shoulder L\_shoulder -37.07544 -132.38182 2190.759

right shoulder R\_shoulder -119.12757 -123.00732 1862.1019

82.05213

first angle mean: 139.54279

first angle stdev: 16.989283

second angle mean: 91.50304

second angle stdev: 21.256804

145.26 155.76

108.56 52.28

left shoulder L\_shoulder -35.70329 -130.69533 2198.5732

right shoulder R\_shoulder -126.13603 -123.18796 1869.9867

90.43274

first angle mean: 139.56012

first angle stdev: 16.966433

second angle mean: 91.554726

second angle stdev: 21.24527

140.77 154.1

108.72 52.2

left shoulder L\_shoulder -34.33072 -131.16214 2209.8574

right shoulder R\_shoulder -130.54858 -123.21555 1878.0238

96.217865

first angle mean: 139.56378

first angle stdev: 16.940914

second angle mean: 91.60658

second angle stdev: 21.23406

133.36 152.59

109.83 52.1

left shoulder L\_shoulder -28.708817 -128.707 2218.6196

right shoulder R\_shoulder -137.58975 -125.19169 1890.627

108.880936

first angle mean: 139.54509

first angle stdev: 16.918798

second angle mean: 91.661476

second angle stdev: 21.225563

129.71 152.05

109.37 52.91

left shoulder L\_shoulder -25.373129 -130.98524 2224.4536

right shoulder R\_shoulder -151.16907 -129.75813 1901.0634

125.79594

first angle mean: 139.51555

first angle stdev: 16.901945

second angle mean: 91.71465

second angle stdev: 21.215807

127.46 152.42

108.43 52.96

left shoulder L\_shoulder -19.288668 -127.72623 2230.117

right shoulder R\_shoulder -160.34988 -129.63196 1908.1487

141.06122

first angle mean: 139.47946

first angle stdev: 16.889471

second angle mean: 91.7647

second angle stdev: 21.2037

128.48 152.31

108.6 54.01

left shoulder L\_shoulder -7.8144307 -121.30853 2230.9626

right shoulder R\_shoulder -170.75899 -124.57903 1912.5618

162.94455

first angle mean: 139.44662

first angle stdev: 16.874916

second angle mean: 91.81496

second angle stdev: 21.19194

138.44 149.22

109.06 54.24

left shoulder L\_shoulder 6.2639794 -115.66375 2221.1355

right shoulder R\_shoulder -192.00519 -124.50356 1922.9034

198.26917

first angle mean: 139.44363

first angle stdev: 16.849876

second angle mean: 91.86628

second angle stdev: 21.181223

144.93 144.63

110.96 53.24

left shoulder L\_shoulder 24.808655 -110.46067 2208.4695

right shoulder R\_shoulder -213.78438 -126.1486 1943.683

238.59303

first angle mean: 139.45992

first angle stdev: 16.827503

second angle mean: 91.922935

second angle stdev: 21.175257

149.86 141.49

112.54 54.43

left shoulder L\_shoulder 39.627632 -108.90479 2184.718

right shoulder R\_shoulder -226.47978 -130.2502 1956.8776

266.10742

first angle mean: 139.49069

first angle stdev: 16.812084

second angle mean: 91.98393

second angle stdev: 21.173538

152.46 142.25

113.2 57.62

left shoulder L\_shoulder 57.299255 -107.303246 2136.9421

right shoulder R\_shoulder -243.26071 -131.7219 1966.9752

300.55997

first angle mean: 139.52895

first angle stdev: 16.801996

second angle mean: 92.04652

second angle stdev: 21.173573

153.0 139.65

116.4 56.88

left shoulder L\_shoulder 70.47621 -108.281235 2089.7998

right shoulder R\_shoulder -254.54744 -134.3616 1988.2767

325.02365

first angle mean: 139.56857

first angle stdev: 16.793123

second angle mean: 92.11815

second angle stdev: 21.183504

148.84 137.85

117.11 61.25

left shoulder L\_shoulder 72.495895 -115.1375 2069.7742

right shoulder R\_shoulder -256.35388 -139.7208 2009.4371

328.8498

first angle mean: 139.59575

first angle stdev: 16.775974

second angle mean: 92.191444

second angle stdev: 21.195545

142.45 134.65

105.85 64.17

left shoulder L\_shoulder 74.80308 -116.75152 2052.4158

right shoulder R\_shoulder -254.77559 -139.58116 2016.839

329.57867

first angle mean: 139.6041

first angle stdev: 16.752138

second angle mean: 92.23137

second angle stdev: 21.17738

135.0 132.04

104.84 67.43

left shoulder L\_shoulder 73.30411 -113.5681 2015.3291

right shoulder R\_shoulder -254.17369 -134.31868 2010.5691

327.47778

first angle mean: 139.59067

first angle stdev: 16.729542

second angle mean: 92.26813

second angle stdev: 21.15741

136.07 134.57

105.47 70.65

left shoulder L\_shoulder 66.70282 -111.469246 1996.9207

right shoulder R\_shoulder -260.54553 -128.59302 2012.9309

327.24835

first angle mean: 139.58044

first angle stdev: 16.706284

second angle mean: 92.30651

second angle stdev: 21.138588

137.27 139.55

107.04 75.83

left shoulder L\_shoulder 61.97364 -114.48119 1986.5902

right shoulder R\_shoulder -266.52576 -127.37009 2009.1183

328.4994

first angle mean: 139.57373

first angle stdev: 16.682516

second angle mean: 92.34921

second angle stdev: 21.122787

126.75 140.52

101.59 81.63

left shoulder L\_shoulder 54.05281 -116.78873 1980.1998

right shoulder R\_shoulder -274.85696 -125.22749 1998.6458

328.9098

first angle mean: 139.53667

first angle stdev: 16.67261

second angle mean: 92.37592

second angle stdev: 21.098074

125.97 136.67

103.03 77.36

left shoulder L\_shoulder 41.473713 -111.702965 1916.0894

right shoulder R\_shoulder -284.4267 -123.067276 1955.3787

325.90042

first angle mean: 139.49757

first angle stdev: 16.664444

second angle mean: 92.406624

second angle stdev: 21.07539

125.54 131.65

104.21 76.33

left shoulder L\_shoulder 27.790012 -107.29984 1877.4514

right shoulder R\_shoulder -293.3256 -122.78719 1930.5068

321.1156

first angle mean: 139.45747

first angle stdev: 16.657248

second angle mean: 92.440544

second angle stdev: 21.054571

125.07 129.64

104.95 77.37

left shoulder L\_shoulder 18.702236 -104.852036 1857.0846

right shoulder R\_shoulder -297.75565 -120.43157 1908.3702

316.4579

first angle mean: 139.41624

first angle stdev: 16.651134

second angle mean: 92.47639

second angle stdev: 21.035013

125.86 130.3

102.33 80.91

left shoulder L\_shoulder 13.109922 -107.98089 1863.0948

right shoulder R\_shoulder -303.73514 -114.96677 1893.7999

316.84506

first angle mean: 139.37752

first angle stdev: 16.643068

second angle mean: 92.50454

second angle stdev: 21.011528

122.53 128.44

100.82 80.45

left shoulder L\_shoulder 11.070116 -105.13417 1860.829

right shoulder R\_shoulder -305.51382 -110.5237 1888.8932

316.58395

first angle mean: 139.32951

first angle stdev: 16.643585

second angle mean: 92.52823

second angle stdev: 20.986256

113.43 115.31

101.57 78.66

left shoulder L\_shoulder 6.0722384 -104.03681 1865.0428

right shoulder R\_shoulder -307.7687 -108.9942 1896.148

313.84094

first angle mean: 139.25594

first angle stdev: 16.676994

second angle mean: 92.55392

second angle stdev: 20.961948

109.75 109.63

102.59 79.29

left shoulder L\_shoulder 2.9338303 -105.156075 1868.5427

right shoulder R\_shoulder -308.24597 -109.23382 1899.6865

311.1798

first angle mean: 139.17235

first angle stdev: 16.727032

second angle mean: 92.582344

second angle stdev: 20.939032

104.8 116.65

100.92 82.14

left shoulder L\_shoulder 5.292356 -106.420235 1871.7146

right shoulder R\_shoulder -306.54514 -107.120544 1892.9856

311.8375

first angle mean: 139.07526

first angle stdev: 16.802715

second angle mean: 92.605896

second angle stdev: 20.914118

112.51 117.95

98.59 82.86

left shoulder L\_shoulder 6.063595 -108.247444 1895.9724

right shoulder R\_shoulder -308.33813 -107.84678 1913.8846

314.40173

first angle mean: 139.00041

first angle stdev: 16.838001

second angle mean: 92.62276

second angle stdev: 20.887049

119.23 122.7

95.2 85.95

left shoulder L\_shoulder 10.613709 -107.56545 1912.7555

right shoulder R\_shoulder -308.89194 -105.74314 1922.9421

319.50565

first angle mean: 138.9449

first angle stdev: 16.846863

second angle mean: 92.630005

second angle stdev: 20.858139

118.67 105.0

94.19 93.33

left shoulder L\_shoulder 9.419859 -109.38709 1959.9087

right shoulder R\_shoulder -311.24628 -104.67366 1959.3008

320.66614

first angle mean: 138.88809

first angle stdev: 16.857342

second angle mean: 92.63437

second angle stdev: 20.82907

129.94 98.62

89.23 96.17

left shoulder L\_shoulder 7.8749948 -115.970245 1993.1261

right shoulder R\_shoulder -312.7704 -110.26437 1991.301

320.6454

first angle mean: 138.86311

first angle stdev: 16.840405

second angle mean: 92.624855

second angle stdev: 20.800732

141.28 107.45

75.74 100.13

left shoulder L\_shoulder 20.936937 -114.1027 1928.4374

right shoulder R\_shoulder -292.0157 -106.566734 1900.3125

312.95264

first angle mean: 138.86984

first angle stdev: 16.817417

second angle mean: 92.57782

second angle stdev: 20.790796

146.17 128.71

71.27 102.32

left shoulder L\_shoulder 20.88362 -117.55274 1969.0897

right shoulder R\_shoulder -290.1349 -112.72153 1936.8503

311.0185

first angle mean: 138.8901

first angle stdev: 16.798437

second angle mean: 92.51864

second angle stdev: 20.792166

150.99 145.91

68.05 103.21

left shoulder L\_shoulder 18.274681 -117.895615 1978.9977

right shoulder R\_shoulder -292.33823 -117.85909 1943.4213

310.6129

first angle mean: 138.92363

first angle stdev: 16.787205

second angle mean: 92.45085

second angle stdev: 20.803137

153.16 150.44

64.8 102.75

left shoulder L\_shoulder 12.708856 -118.918304 1984.3792

right shoulder R\_shoulder -299.66537 -122.26777 1972.783

312.37424

first angle mean: 138.96297

first angle stdev: 16.780645

second angle mean: 92.37447

second angle stdev: 20.825014

156.63 153.17

60.89 101.24

left shoulder L\_shoulder 6.9839206 -116.49009 1968.892

right shoulder R\_shoulder -300.37195 -124.144394 1996.7133

307.35587

first angle mean: 139.01163

first angle stdev: 16.783083

second angle mean: 92.28773

second angle stdev: 20.861683

158.55 144.54

57.29 103.77

left shoulder L\_shoulder -11.751473 -112.64041 1949.596

right shoulder R\_shoulder -293.09396 -125.69179 2038.6633

281.3425

first angle mean: 139.0653

first angle stdev: 16.791185

second angle mean: 92.19159

second angle stdev: 20.91339

156.98 129.23

57.41 106.43

left shoulder L\_shoulder -41.326523 -111.054054 1914.0691

right shoulder R\_shoulder -288.30438 -131.22801 2071.147

246.97786

first angle mean: 139.11438

first angle stdev: 16.794292

second angle mean: 92.0963

second angle stdev: 20.963705

157.71 120.13

62.31 111.68

left shoulder L\_shoulder -72.66633 -107.66641 1890.2681

right shoulder R\_shoulder -279.85123 -131.01598 2099.825

207.1849

first angle mean: 139.16519

first angle stdev: 16.799402

second angle mean: 92.01491

second angle stdev: 20.992704

157.87 118.67

59.61 107.85

left shoulder L\_shoulder -95.83304 -103.83392 1875.6328

right shoulder R\_shoulder -274.79324 -128.96568 2114.7883

178.9602

first angle mean: 139.21616

first angle stdev: 16.80481

second angle mean: 91.92662

second angle stdev: 21.03203

counter:3

156.08 132.14

65.79 107.36

left shoulder L\_shoulder -138.28412 -102.1124 1837.4221

right shoulder R\_shoulder -261.60617 -131.18967 2145.0986

123.32205

first angle mean: 139.26198

first angle stdev: 16.804909

second angle mean: 91.8556

second angle stdev: 21.047459

155.4 141.89

52.61 98.62

left shoulder L\_shoulder -146.65916 -111.441414 1876.9989

right shoulder R\_shoulder -269.54266 -130.52931 2211.3594

122.8835

first angle mean: 139.30571

first angle stdev: 16.80308

second angle mean: 91.74924

second angle stdev: 21.117712

154.64 112.96

53.2 115.17

left shoulder L\_shoulder -134.37178 -113.15733 1881.9094

right shoulder R\_shoulder -272.56302 -128.03719 2223.0393

138.19124

first angle mean: 139.34715

first angle stdev: 16.799232

second angle mean: 91.64506

second angle stdev: 21.183907

155.44 112.62

53.01 116.18

left shoulder L\_shoulder -112.53538 -111.54038 1868.6549

right shoulder R\_shoulder -273.35025 -127.22176 2208.5405

160.81488

first angle mean: 139.39053

first angle stdev: 16.797312

second angle mean: 91.54092

second angle stdev: 21.249962

154.91 125.85

51.57 109.22

left shoulder L\_shoulder -95.38849 -110.12528 1880.0521

right shoulder R\_shoulder -281.103 -126.11197 2208.2808

185.71451

first angle mean: 139.43227

first angle stdev: 16.793955

second angle mean: 91.433464

second angle stdev: 21.32206

154.49 111.73

50.86 121.28

left shoulder L\_shoulder -74.46216 -112.921104 1885.2949

right shoulder R\_shoulder -288.44907 -126.01693 2198.0132

213.98691

first angle mean: 139.47263

first angle stdev: 16.789492

second angle mean: 91.32469

second angle stdev: 21.396564

156.5 141.92

49.4 109.91

left shoulder L\_shoulder -45.294315 -115.47509 1904.0615

right shoulder R\_shoulder -293.3323 -124.20061 2186.9111

248.038

first angle mean: 139.51816

first angle stdev: 16.79007

second angle mean: 91.2126

second angle stdev: 21.477337

155.77 153.15

49.12 112.29

left shoulder L\_shoulder -15.299649 -115.881714 1926.0222

right shoulder R\_shoulder -301.2921 -118.47202 2162.8518

285.99246

first angle mean: 139.5615

first angle stdev: 16.788603

second angle mean: 91.10036

second angle stdev: 21.558249

153.96 142.18

58.8 112.59

left shoulder L\_shoulder 9.614676 -117.40208 1947.3584

right shoulder R\_shoulder -310.8843 -116.06644 2126.0637

320.499

first angle mean: 139.5998

first angle stdev: 16.782654

second angle mean: 91.01444

second angle stdev: 21.593737

148.5 130.4

67.14 110.38

left shoulder L\_shoulder 29.870512 -119.484085 1977.3055

right shoulder R\_shoulder -314.62485 -116.01619 2093.6797

344.49536

first angle mean: 139.6234

first angle stdev: 16.766632

second angle mean: 90.95112

second angle stdev: 21.60001

144.68 127.78

73.06 108.38

left shoulder L\_shoulder 38.366524 -122.54864 2003.8457

right shoulder R\_shoulder -312.6426 -115.480934 2086.363

351.00912

first angle mean: 139.63676

first angle stdev: 16.746452

second angle mean: 90.90379

second angle stdev: 21.590988

132.14 118.66

79.35 113.02

left shoulder L\_shoulder 37.77364 -121.82584 2024.0148

right shoulder R\_shoulder -309.70813 -112.004074 2068.1184

347.48178

first angle mean: 139.61697

first angle stdev: 16.728765

second angle mean: 90.8733

second angle stdev: 21.57063

134.47 110.1

87.27 113.26

left shoulder L\_shoulder 28.232906 -122.57719 2009.1215

right shoulder R\_shoulder -312.2274 -115.21693 2011.5027

340.4603

first angle mean: 139.60344

first angle stdev: 16.70882

second angle mean: 90.863815

second angle stdev: 21.543018

130.24 110.23

95.87 98.96

left shoulder L\_shoulder 15.75427 -123.06523 2013.2969

right shoulder R\_shoulder -322.469 -117.23532 1986.5747

338.22327

first angle mean: 139.57886

first angle stdev: 16.693754

second angle mean: 90.87696

second angle stdev: 21.516254

110.32 111.89

99.84 90.13

left shoulder L\_shoulder 3.578633 -124.30617 2014.7

right shoulder R\_shoulder -329.4527 -113.98924 1957.0153

333.03134

first angle mean: 139.50227

first angle stdev: 16.73879

second angle mean: 90.90042

second angle stdev: 21.492952

95.7 105.42

101.5 83.23

left shoulder L\_shoulder 2.0626788 -136.56073 2002.8794

right shoulder R\_shoulder -331.3554 -119.62154 1951.7051

333.4181

first angle mean: 139.38791

first angle stdev: 16.865704

second angle mean: 90.92809

second angle stdev: 21.47169

92.56 99.73

98.93 81.77

left shoulder L\_shoulder 3.3267741 -139.99855 2009.5062

right shoulder R\_shoulder -330.16983 -116.691864 1961.5306

333.4966

first angle mean: 139.26596

first angle stdev: 17.011963

second angle mean: 90.94894

second angle stdev: 21.447592

99.19 95.49

101.24 79.13

left shoulder L\_shoulder 9.958043 -135.42514 1970.9716

right shoulder R\_shoulder -325.63116 -117.639084 1964.5767

335.5892

first angle mean: 139.16187

first angle stdev: 17.111866

second angle mean: 90.97566

second angle stdev: 21.426123

99.45 89.87

104.36 81.78

left shoulder L\_shoulder 14.11964 -126.869736 1920.9769

right shoulder R\_shoulder -317.49475 -117.23995 1961.2758

331.61438

first angle mean: 139.05899

first angle stdev: 17.208498

second angle mean: 91.010345

second angle stdev: 21.409164

95.74 92.37

104.87 82.0

left shoulder L\_shoulder 18.62879 -117.36775 1886.7388

right shoulder R\_shoulder -308.8015 -116.41309 1953.3544

327.4303

first angle mean: 138.94705

first angle stdev: 17.326384

second angle mean: 91.04615

second angle stdev: 21.393059

111.46 102.67

102.94 79.94

left shoulder L\_shoulder 19.858288 -103.59446 1860.5359

right shoulder R\_shoulder -300.8163 -118.23646 1954.9198

320.6746

first angle mean: 138.8762

first angle stdev: 17.360073

second angle mean: 91.076805

second angle stdev: 21.373981

116.6 102.59

101.2 80.11

left shoulder L\_shoulder 18.921106 -93.001785 1848.218

right shoulder R\_shoulder -297.7762 -120.25351 1953.293

316.69733

first angle mean: 138.81894

first angle stdev: 17.3744

second angle mean: 91.10283

second angle stdev: 21.352646

119.32 106.82

101.16 82.03

left shoulder L\_shoulder 15.348181 -99.274765 1851.9319

right shoulder R\_shoulder -302.8678 -124.96152 1950.503

318.21597

first angle mean: 138.76895

first angle stdev: 17.380106

second angle mean: 91.12862

second angle stdev: 21.331318

116.17 114.89

97.08 82.16

left shoulder L\_shoulder 16.569405 -105.006294 1826.2302

right shoulder R\_shoulder -300.9899 -123.24606 1888.8752

317.5593

first angle mean: 138.71115

first angle stdev: 17.395357

second angle mean: 91.143845

second angle stdev: 21.306143

101.9 132.05

94.08 84.35

left shoulder L\_shoulder 17.137527 -114.4663 1890.9333

right shoulder R\_shoulder -302.27667 -115.30032 1908.2249

319.41418

first angle mean: 138.61725

first angle stdev: 17.472105

second angle mean: 91.15133

second angle stdev: 21.279465

97.28 139.05

96.93 78.34

left shoulder L\_shoulder 6.9489775 -115.85844 1952.5563

right shoulder R\_shoulder -309.9515 -107.40628 1941.9257

316.90048

first angle mean: 138.51207

first angle stdev: 17.57369

second angle mean: 91.16603

second angle stdev: 21.254368

118.66 140.62

104.46 71.18

left shoulder L\_shoulder -0.91800106 -121.76614 2030.2925

right shoulder R\_shoulder -313.95874 -109.89343 1986.7859

313.04074

first angle mean: 138.46167

first angle stdev: 17.579775

second angle mean: 91.199776

second angle stdev: 21.237915

146.09 145.69

107.18 59.22

left shoulder L\_shoulder -5.8158636 -128.27707 2073.8538

right shoulder R\_shoulder -314.56015 -116.69665 2013.8307

308.7443

first angle mean: 138.48099

first angle stdev: 17.561691

second angle mean: 91.24023

second angle stdev: 21.22621

154.31 148.02

105.0 53.27

left shoulder L\_shoulder -3.6729429 -132.93 2103.7734

right shoulder R\_shoulder -302.25974 -126.42148 2007.0975

298.5868

first angle mean: 138.52095

first angle stdev: 17.557486

second angle mean: 91.27498

second angle stdev: 21.210636

153.6 151.32

101.52 53.16

left shoulder L\_shoulder -11.722788 -130.02336 2135.8083

right shoulder R\_shoulder -281.78592 -130.27327 1982.8413

270.06314

first angle mean: 138.55894

first angle stdev: 17.551641

second angle mean: 91.30077

second angle stdev: 21.19013

143.43 152.66

100.39 62.28

left shoulder L\_shoulder -34.492744 -125.3227 2181.1008

right shoulder R\_shoulder -241.4432 -128.42221 1941.4568

206.95047

first angle mean: 138.57118

first angle stdev: 17.531275

second angle mean: 91.32361

second angle stdev: 21.168383

142.06 155.21

102.84 65.27

left shoulder L\_shoulder -61.48228 -126.225815 2201.4158

right shoulder R\_shoulder -201.42029 -118.918274 1905.3992

139.938

first angle mean: 138.57993

first angle stdev: 17.51016

second angle mean: 91.352486

second angle stdev: 21.149681

143.52 157.8

106.22 59.28

left shoulder L\_shoulder -76.78502 -131.14275 2208.3416

right shoulder R\_shoulder -170.96469 -113.17735 1891.6674

94.17967

first angle mean: 138.59227

first angle stdev: 17.489998

second angle mean: 91.38965

second angle stdev: 21.13627

146.47 157.66

104.18 55.03

left shoulder L\_shoulder -81.47214 -137.08948 2215.257

right shoulder R\_shoulder -153.76399 -116.92989 1890.1119

72.291855

first angle mean: 138.61192

first angle stdev: 17.472597

second angle mean: 91.42155

second angle stdev: 21.119535

139.8 157.52

106.14 52.18

left shoulder L\_shoulder -82.74831 -139.84616 2227.2793

right shoulder R\_shoulder -142.2091 -121.80457 1895.8694

59.4608

first angle mean: 138.61487

first angle stdev: 17.45095

second angle mean: 91.45816

second angle stdev: 21.10599

146.63 155.97

96.44 47.01

left shoulder L\_shoulder -69.123825 -137.72844 2211.1475

right shoulder R\_shoulder -137.23361 -120.71134 1879.1854

68.10979

first angle mean: 138.63477

first angle stdev: 17.433847

second angle mean: 91.47051

second angle stdev: 21.081244

141.79 154.89

99.09 49.02

left shoulder L\_shoulder -66.36264 -137.5647 2208.2053

right shoulder R\_shoulder -140.51933 -121.20871 1874.0393

74.15669

first angle mean: 138.64256

first angle stdev: 17.412962

second angle mean: 91.48938

second angle stdev: 21.05854

134.44 155.17

107.07 54.4

left shoulder L\_shoulder -66.10866 -139.95087 2213.0437

right shoulder R\_shoulder -148.8838 -120.88443 1879.2701

82.77515

first angle mean: 138.6322

first angle stdev: 17.392702

second angle mean: 91.527855

second angle stdev: 21.046736

131.76 156.04

112.75 56.85

left shoulder L\_shoulder -60.345894 -139.322 2214.4817

right shoulder R\_shoulder -153.92471 -119.50999 1883.1907

93.57882

first angle mean: 138.61526

first angle stdev: 17.374609

second angle mean: 91.580124

second angle stdev: 21.047104

131.89 156.21

114.79 57.4

left shoulder L\_shoulder -57.895985 -138.16179 2211.473

right shoulder R\_shoulder -160.29382 -120.11437 1883.8475

102.39784

first angle mean: 138.59874

first angle stdev: 17.356445

second angle mean: 91.63715

second angle stdev: 21.052612

135.24 156.03

114.93 57.35

left shoulder L\_shoulder -58.202286 -136.53769 2207.698

right shoulder R\_shoulder -163.36931 -121.20153 1880.7114

105.16702

first angle mean: 138.59052

first angle stdev: 17.335957

second angle mean: 91.69424

second angle stdev: 21.05832

129.49 156.01

119.78 53.65

left shoulder L\_shoulder -57.71224 -134.37091 2207.8694

right shoulder R\_shoulder -166.95978 -121.27437 1881.3121

109.24754

first angle mean: 138.56827

first angle stdev: 17.320583

second angle mean: 91.76291

second angle stdev: 21.078247

118.74 155.62

124.13 50.68

left shoulder L\_shoulder -55.725723 -127.382515 2203.576

right shoulder R\_shoulder -176.05742 -117.96158 1880.7476

120.331696

first angle mean: 138.5199

first angle stdev: 17.327074

second angle mean: 91.84185

second angle stdev: 21.112978

137.89 153.7

108.97 48.09

left shoulder L\_shoulder -50.56327 -119.62368 2197.334

right shoulder R\_shoulder -192.49686 -113.97319 1883.1956

141.9336

first angle mean: 138.51837

first angle stdev: 17.30601

second angle mean: 91.88354

second angle stdev: 21.104153

140.33 152.85

110.0 50.76

left shoulder L\_shoulder -44.65314 -118.32603 2196.7827

right shoulder R\_shoulder -201.7364 -115.45506 1889.0302

157.08327

first angle mean: 138.52277

first angle stdev: 17.285223

second angle mean: 91.927505

second angle stdev: 21.097368

142.05 152.58

111.83 53.77

left shoulder L\_shoulder -39.06809 -116.11042 2195.497

right shoulder R\_shoulder -223.03194 -115.10211 1902.879

183.96385

first angle mean: 138.53131

first angle stdev: 17.265154

second angle mean: 91.97569

second angle stdev: 21.094501

robot count: 4

149.06 147.0

108.86 53.37

left shoulder L\_shoulder -27.719482 -115.24084 2186.6238

right shoulder R\_shoulder -246.77405 -114.66571 1919.1761

219.05457

first angle mean: 138.55673

first angle stdev: 17.252037

second angle mean: 92.01647

second angle stdev: 21.085304

156.54 143.14

109.9 50.48

left shoulder L\_shoulder -14.190629 -114.96383 2163.1914

right shoulder R\_shoulder -270.89017 -114.33486 1932.6213

256.69952

first angle mean: 138.60008

first angle stdev: 17.253778

second angle mean: 92.05956

second angle stdev: 21.07813

160.61 142.23

110.87 50.32

left shoulder L\_shoulder 10.279029 -111.574036 2126.4597

right shoulder R\_shoulder -291.66873 -113.487015 1962.3134

301.94775

first angle mean: 138.65298

first angle stdev: 17.266703

second angle mean: 92.10478

second angle stdev: 21.072924

153.83 142.76

112.63 53.93

left shoulder L\_shoulder 27.854143 -110.996605 2086.8027

right shoulder R\_shoulder -301.09332 -114.664444 1988.4364

328.94748

first angle mean: 138.68938

first angle stdev: 17.261955

second angle mean: 92.154

second angle stdev: 21.07157

146.51 144.73

116.84 58.96

left shoulder L\_shoulder 38.10636 -110.38931 2018.4417

right shoulder R\_shoulder -304.77023 -114.2595 2014.0491

342.8766

first angle mean: 138.70808

first angle stdev: 17.245527

second angle mean: 92.213066

second angle stdev: 21.080873

130.34 144.01

121.01 62.18

left shoulder L\_shoulder 35.272675 -107.21776 1947.045

right shoulder R\_shoulder -298.32556 -115.70321 2019.597

333.59824

first angle mean: 138.68811

first angle stdev: 17.229774

second angle mean: 92.28179

second angle stdev: 21.102537

124.51 138.96

116.44 67.44

left shoulder L\_shoulder 36.253685 -107.890434 1914.7627

right shoulder R\_shoulder -290.8394 -119.92597 2008.3256

327.09308

first angle mean: 138.65436

first angle stdev: 17.223118

second angle mean: 92.33932

second angle stdev: 21.110258

125.96 134.43

96.07 79.46

left shoulder L\_shoulder 45.241886 -114.23004 1917.2014

right shoulder R\_shoulder -287.70044 -123.6539 1974.3501

332.94232

first angle mean: 138.6242

first angle stdev: 17.213745

second angle mean: 92.348175

second angle stdev: 21.085955

115.6 121.59

96.45 84.92

left shoulder L\_shoulder 51.577465 -102.46891 1870.5698

right shoulder R\_shoulder -277.51257 -122.21864 1915.5999

329.09003

first angle mean: 138.56964

first angle stdev: 17.229746

second angle mean: 92.357895

second angle stdev: 21.061901

117.86 105.0

96.21 90.59

left shoulder L\_shoulder 54.30308 -97.15139 1883.3862

right shoulder R\_shoulder -277.90305 -106.636505 1877.2

332.20612

first angle mean: 138.52069

first angle stdev: 17.238731

second angle mean: 92.367004

second angle stdev: 21.03782

131.27 98.4

99.11 91.3

left shoulder L\_shoulder 50.104538 -94.54693 1886.5315

right shoulder R\_shoulder -281.90753 -106.95605 1885.8958

332.0121

first angle mean: 138.50359

first angle stdev: 17.221981

second angle mean: 92.382904

second angle stdev: 21.015543

133.88 107.14

102.25 88.88

left shoulder L\_shoulder 47.557274 -91.364174 1880.5149

right shoulder R\_shoulder -283.21045 -110.512245 1904.3031

330.76773

first angle mean: 138.4927

first angle stdev: 17.203167

second angle mean: 92.40612

second angle stdev: 20.996248

129.03 114.43

101.77 88.56

left shoulder L\_shoulder 40.880634 -97.634026 1897.0295

right shoulder R\_shoulder -290.2201 -112.952324 1914.8779

331.10074

first angle mean: 138.47049

first angle stdev: 17.189066

second angle mean: 92.4281

second angle stdev: 20.976484

125.19 88.39

96.32 97.38

left shoulder L\_shoulder 37.372803 -107.60633 1945.3191

right shoulder R\_shoulder -292.47028 -111.44168 1922.2635

329.84308

first angle mean: 138.43939

first angle stdev: 17.180922

second angle mean: 92.43722

second angle stdev: 20.952753

112.1 90.37

95.07 97.59

left shoulder L\_shoulder 31.47158 -118.82031 1952.9391

right shoulder R\_shoulder -285.8878 -119.13856 1915.6316

317.35938

first angle mean: 138.37785

first angle stdev: 17.207891

second angle mean: 92.44337

second angle stdev: 20.928646

104.92 112.3

89.19 96.66

left shoulder L\_shoulder 30.785486 -122.8401 1973.5347

right shoulder R\_shoulder -279.37308 -128.29219 1940.2416

310.15857

first angle mean: 138.29987

first angle stdev: 17.26339

second angle mean: 92.43579

second angle stdev: 20.904829

128.02 133.04

78.42 99.65

left shoulder L\_shoulder 34.423016 -119.31758 2001.9006

right shoulder R\_shoulder -266.49454 -127.85894 1938.7784

300.91754

first angle mean: 138.27596

first angle stdev: 17.250412

second angle mean: 92.40319

second angle stdev: 20.891418

138.9 122.7

73.53 100.93

left shoulder L\_shoulder 35.181667 -110.04111 2028.7297

right shoulder R\_shoulder -261.7306 -125.29781 1970.4056

296.91226

first angle mean: 138.2774

first angle stdev: 17.230413

second angle mean: 92.359406

second angle stdev: 20.886915

147.18 139.14

61.06 109.13

left shoulder L\_shoulder 32.703392 -104.79643 2005.3696

right shoulder R\_shoulder -258.32336 -122.3248 1960.9808

291.02676

first angle mean: 138.29802

first angle stdev: 17.215778

second angle mean: 92.28695

second angle stdev: 20.916878

152.93 144.11

57.52 107.94

left shoulder L\_shoulder 19.097313 -109.14897 1986.1417

right shoulder R\_shoulder -272.4056 -123.0427 1989.6536

291.50293

first angle mean: 138.3318

first angle stdev: 17.210224

second angle mean: 92.20665

second angle stdev: 20.959257

156.19 133.37

60.29 106.49

left shoulder L\_shoulder -3.0191536 -109.47861 1967.2716

right shoulder R\_shoulder -278.46246 -123.96479 2055.7263

275.4433

first angle mean: 138.37296

first angle stdev: 17.211695

second angle mean: 92.13311

second angle stdev: 20.990952

156.52 117.41

63.52 107.25

left shoulder L\_shoulder -36.60104 -106.73737 1939.2885

right shoulder R\_shoulder -273.62973 -123.298065 2113.4446

237.02869

first angle mean: 138.41466

first angle stdev: 17.213854

second angle mean: 92.06733

second angle stdev: 21.011543

157.71 119.28

59.72 106.98

left shoulder L\_shoulder -86.86431 -100.45603 1891.9833

right shoulder R\_shoulder -265.78165 -125.908165 2150.6094

178.91733

first angle mean: 138.45892

first angle stdev: 17.218859

second angle mean: 91.99313

second angle stdev: 21.0444

counter:4

164.27 136.69

58.62 103.78

left shoulder L\_shoulder -122.03755 -95.749275 1827.2787

right shoulder R\_shoulder -231.10158 -132.1399 2166.6296

109.064026

first angle mean: 138.51799

first angle stdev: 17.243307

second angle mean: 91.91677

second angle stdev: 21.080704

165.53 136.8

56.9 106.7

left shoulder L\_shoulder -119.28369 -95.94323 1813.5322

right shoulder R\_shoulder -229.77335 -130.83873 2161.4802

110.489655

first angle mean: 138.57967

first angle stdev: 17.271795

second angle mean: 91.83683

second angle stdev: 21.122847

161.43 132.25

60.78 111.53

left shoulder L\_shoulder -117.198265 -99.18147 1826.2144

right shoulder R\_shoulder -234.60904 -128.82634 2172.8545

117.410774

first angle mean: 138.63171

first angle stdev: 17.28647

second angle mean: 91.766075

second angle stdev: 21.15066

159.44 128.56

57.13 112.48

left shoulder L\_shoulder -113.27887 -100.515465 1844.4663

right shoulder R\_shoulder -237.81155 -127.70517 2192.4116

124.532684

first angle mean: 138.679

first angle stdev: 17.295221

second angle mean: 91.68737

second angle stdev: 21.190891

157.11 113.46

50.62 121.52

left shoulder L\_shoulder -103.071686 -106.29413 1859.3385

right shoulder R\_shoulder -245.30164 -129.80893 2202.8523

142.22995

first angle mean: 138.7208

first angle stdev: 17.29783

second angle mean: 91.594246

second angle stdev: 21.256794

147.12 109.11

47.33 116.79

left shoulder L\_shoulder -73.37761 -112.449844 1869.3087

right shoulder R\_shoulder -257.75702 -131.74173 2196.2954

184.37941

first angle mean: 138.7398

first angle stdev: 17.28286

second angle mean: 91.494095

second angle stdev: 21.336632

146.84 121.73

48.85 105.73

left shoulder L\_shoulder -55.342983 -115.502884 1887.1991

right shoulder R\_shoulder -265.74466 -131.23228 2199.165

210.40167

first angle mean: 138.75809

first angle stdev: 17.267622

second angle mean: 91.397835

second angle stdev: 21.40841

151.88 145.97

48.59 103.99

left shoulder L\_shoulder -20.78347 -114.72668 1915.7736

right shoulder R\_shoulder -271.99 -121.254 2176.0789

251.20651

first angle mean: 138.78764

first angle stdev: 17.259377

second angle mean: 91.301414

second angle stdev: 21.480356

154.38 147.64

56.08 114.1

left shoulder L\_shoulder 7.9891243 -115.805664 1937.2046

right shoulder R\_shoulder -275.22083 -121.17041 2146.942

283.20996

first angle mean: 138.82268

first angle stdev: 17.255777

second angle mean: 91.22227

second angle stdev: 21.52093

151.39 141.84

57.07 116.29

left shoulder L\_shoulder 22.164986 -116.06831 1958.3335

right shoulder R\_shoulder -280.38486 -118.61253 2126.0745

302.54984

first angle mean: 138.85086

first angle stdev: 17.246668

second angle mean: 91.1457

second angle stdev: 21.557392

139.87 134.18

67.48 117.55

left shoulder L\_shoulder 33.18124 -115.58813 1994.979

right shoulder R\_shoulder -288.42322 -114.90075 2103.458

321.60446

first angle mean: 138.85313

first angle stdev: 17.227432

second angle mean: 91.09275

second angle stdev: 21.562275

138.94 134.0

79.49 100.95

left shoulder L\_shoulder 35.16674 -117.87763 2019.4102

right shoulder R\_shoulder -298.8124 -117.75799 2075.834

333.97916

first angle mean: 138.85332

first angle stdev: 17.208197

second angle mean: 91.06686

second angle stdev: 21.545155

144.86 133.12

85.99 97.85

left shoulder L\_shoulder 28.9024 -122.58286 2032.1617

right shoulder R\_shoulder -309.6775 -125.26925 2025.9082

338.5799

first angle mean: 138.8667

first angle stdev: 17.191353

second angle mean: 91.05555

second angle stdev: 21.522482

142.86 123.15

89.04 98.82

left shoulder L\_shoulder 17.511591 -124.611626 2017.5521

right shoulder R\_shoulder -316.43967 -123.68393 1961.7723

333.95126

first angle mean: 138.87558

first angle stdev: 17.173271

second angle mean: 91.05108

second angle stdev: 21.498762

139.06 103.43

95.2 97.4

left shoulder L\_shoulder 7.2125773 -123.6133 2008.4814

right shoulder R\_shoulder -320.46164 -114.14568 1925.7493

327.67422

first angle mean: 138.87599

first angle stdev: 17.154224

second angle mean: 91.060265

second angle stdev: 21.475801

139.5 105.95

103.05 89.68

left shoulder L\_shoulder 6.3070045 -115.67625 1978.9938

right shoulder R\_shoulder -327.63086 -104.366455 1922.3322

333.93787

first angle mean: 138.87737

first angle stdev: 17.135262

second angle mean: 91.0868

second angle stdev: 21.459427

134.97 105.07

101.15 90.28

left shoulder L\_shoulder 11.071638 -116.34057 1977.46

right shoulder R\_shoulder -323.7273 -101.47059 1926.9336

334.79892

first angle mean: 138.86874

first angle stdev: 17.117321

second angle mean: 91.10902

second angle stdev: 21.440931

133.09 107.23

97.8 89.54

left shoulder L\_shoulder 18.427979 -115.57262 1967.7454

right shoulder R\_shoulder -318.42404 -98.9271 1936.2102

336.85202

first angle mean: 138.85602

first angle stdev: 17.100605

second angle mean: 91.12374

second angle stdev: 21.419601

136.29 112.48

95.94 89.27

left shoulder L\_shoulder 23.547781 -114.53502 1968.1398

right shoulder R\_shoulder -314.3931 -101.24578 1949.3738

337.9409

first angle mean: 138.85037

first angle stdev: 17.082226

second angle mean: 91.13434

second angle stdev: 21.39724

134.62 109.51

94.98 91.33

left shoulder L\_shoulder 25.608017 -113.75277 1979.6326

right shoulder R\_shoulder -312.33472 -102.85999 1962.0623

337.94275

first angle mean: 138.8411

first angle stdev: 17.064632

second angle mean: 91.14277

second angle stdev: 21.374521

126.74 98.99

94.54 94.94

left shoulder L\_shoulder 25.580256 -114.16504 2008.4214

right shoulder R\_shoulder -312.12323 -105.00969 1985.1189

337.7035

first angle mean: 138.81462

first angle stdev: 17.055326

second angle mean: 91.1502

second angle stdev: 21.351713

120.0 92.8

95.42 97.07

left shoulder L\_shoulder 23.170784 -116.56873 2037.9729

right shoulder R\_shoulder -313.8929 -108.791405 2007.3605

337.0637

first angle mean: 138.77354

first angle stdev: 17.059317

second angle mean: 91.15952

second angle stdev: 21.32932

113.52 98.9

101.5 91.97

left shoulder L\_shoulder 18.44257 -124.945076 2019.8519

right shoulder R\_shoulder -316.6981 -115.778145 2006.5563

335.14066

first angle mean: 138.7185

first angle stdev: 17.081354

second angle mean: 91.18205

second angle stdev: 21.31153

105.43 103.2

105.4 81.74

left shoulder L\_shoulder 13.563753 -133.27402 1987.952

right shoulder R\_shoulder -313.56143 -124.21783 1991.375

327.12518

first angle mean: 138.64615

first angle stdev: 17.13307

second angle mean: 91.21296

second angle stdev: 21.298649

113.56 132.33

104.21 77.31

left shoulder L\_shoulder 15.68611 -130.32094 1954.5157

right shoulder R\_shoulder -306.06494 -122.875275 1969.7834

321.75104

first angle mean: 138.59174

first angle stdev: 17.154226

second angle mean: 91.24116

second angle stdev: 21.284124

116.92 149.37

101.83 73.89

left shoulder L\_shoulder 15.948741 -120.58695 1958.968

right shoulder R\_shoulder -304.4753 -115.54268 1966.3365

320.42404

first angle mean: 138.54483

first angle stdev: 17.165226

second angle mean: 91.26407

second angle stdev: 21.266773

122.81 145.54

102.7 64.89

left shoulder L\_shoulder 13.554352 -114.31861 1957.9294

right shoulder R\_shoulder -305.06693 -111.74083 1967.2388

318.62128

first angle mean: 138.51083

first angle stdev: 17.16223

second angle mean: 91.28877

second angle stdev: 21.250427

140.18 144.97

106.44 58.53

left shoulder L\_shoulder 8.098051 -119.1485 2013.4545

right shoulder R\_shoulder -307.8175 -115.3177 2001.2002

315.91556

first angle mean: 138.51443

first angle stdev: 17.1439

second angle mean: 91.32143

second angle stdev: 21.239141

142.52 145.18

105.74 56.43

left shoulder L\_shoulder 5.6496863 -123.91522 2100.5642

right shoulder R\_shoulder -295.14392 -124.92481 2009.5895

300.7936

first angle mean: 138.52306

first angle stdev: 17.126463

second angle mean: 91.35244

second angle stdev: 21.2268

138.55 147.28

104.67 53.51

left shoulder L\_shoulder -6.7343416 -122.683044 2146.1072

right shoulder R\_shoulder -262.85156 -128.73746 1983.856

256.11722

first angle mean: 138.52312

first angle stdev: 17.108076

second angle mean: 91.38101

second angle stdev: 21.212967

131.98 150.51

108.4 52.73

left shoulder L\_shoulder -26.52672 -123.45797 2187.4004

right shoulder R\_shoulder -225.06403 -128.99652 1958.6041

198.53731

first angle mean: 138.5091

first angle stdev: 17.092424

second angle mean: 91.41746

second angle stdev: 21.20484

134.16 155.21

109.98 54.88

left shoulder L\_shoulder -47.332905 -120.75501 2204.0562

right shoulder R\_shoulder -195.78772 -122.75691 1936.7849

148.45482

first angle mean: 138.4998

first angle stdev: 17.075335

second angle mean: 91.457115

second angle stdev: 21.199509

138.5 157.77

107.24 58.16

left shoulder L\_shoulder -64.092255 -119.98569 2203.4343

right shoulder R\_shoulder -183.04742 -117.13801 1920.2904

118.95517

first angle mean: 138.4998

first angle stdev: 17.057121

second angle mean: 91.49077

second angle stdev: 21.189405

139.86 158.96

105.34 56.08

left shoulder L\_shoulder -82.66194 -125.268265 2217.9575

right shoulder R\_shoulder -164.61404 -119.00553 1913.4048

81.9521

first angle mean: 138.5027

first angle stdev: 17.039082

second angle mean: 91.52024

second angle stdev: 21.17647

136.66 158.56

103.87 51.41

left shoulder L\_shoulder -85.062874 -127.59565 2234.2363

right shoulder R\_shoulder -150.998 -122.47644 1915.4662

65.93513

first angle mean: 138.4988

first angle stdev: 17.021196

second angle mean: 91.54646

second angle stdev: 21.161613

128.59 158.77

107.92 47.87

left shoulder L\_shoulder -85.24625 -129.08784 2255.148

right shoulder R\_shoulder -139.84422 -124.14188 1914.8687

54.597977

first angle mean: 138.4778

first angle stdev: 17.009258

second angle mean: 91.58115

second angle stdev: 21.152586

127.81 157.53

108.91 51.3

left shoulder L\_shoulder -77.3178 -129.42735 2252.021

right shoulder R\_shoulder -136.46245 -124.6151 1900.3353

59.144646

first angle mean: 138.45525

first angle stdev: 16.998331

second angle mean: 91.61778

second angle stdev: 21.145199

125.4 155.7

115.09 56.19

left shoulder L\_shoulder -72.23902 -131.54321 2234.964

right shoulder R\_shoulder -138.64574 -123.71662 1882.7991

66.406715

first angle mean: 138.4277

first angle stdev: 16.990953

second angle mean: 91.667305

second angle stdev: 21.15032

123.86 155.79

124.54 59.25

left shoulder L\_shoulder -68.43569 -133.17584 2222.406

right shoulder R\_shoulder -143.23402 -122.675224 1871.9224

74.79833

first angle mean: 138.39703

first angle stdev: 16.986187

second angle mean: 91.7365

second angle stdev: 21.181702

126.71 155.88

120.63 59.55

left shoulder L\_shoulder -63.052147 -132.83463 2220.2288

right shoulder R\_shoulder -148.5747 -121.15876 1872.2085

85.52256

first angle mean: 138.37247

first angle stdev: 16.97677

second angle mean: 91.7972

second angle stdev: 21.200758

131.24 156.05

116.34 59.88

left shoulder L\_shoulder -61.214684 -134.13356 2219.0945

right shoulder R\_shoulder -154.72015 -120.59692 1873.0256

93.50547

first angle mean: 138.35754

first angle stdev: 16.962105

second angle mean: 91.84866

second angle stdev: 21.208252

134.63 156.43

116.94 60.04

left shoulder L\_shoulder -61.07352 -130.03906 2219.8794

right shoulder R\_shoulder -161.65512 -117.971756 1875.7704

100.581604

first angle mean: 138.34973

first angle stdev: 16.945208

second angle mean: 91.90115

second angle stdev: 21.217052

139.67 157.73

112.98 54.94

left shoulder L\_shoulder -56.81377 -119.95608 2218.5764

right shoulder R\_shoulder -173.29074 -113.23246 1884.3263

116.476974

first angle mean: 138.3525

first angle stdev: 16.927618

second angle mean: 91.94516

second angle stdev: 21.216719

145.25 156.62

113.25 50.85

left shoulder L\_shoulder -56.5988 -112.05553 2216.0564

right shoulder R\_shoulder -186.90543 -109.78032 1898.9054

130.30663

first angle mean: 138.36687

first angle stdev: 16.912899

second angle mean: 91.98954

second angle stdev: 21.216856

158.74 153.84

112.83 49.22

left shoulder L\_shoulder -48.977814 -108.81447 2219.8835

right shoulder R\_shoulder -203.6509 -110.76739 1923.8115

154.67308

first angle mean: 138.40921

first angle stdev: 16.920774

second angle mean: 92.032875

second angle stdev: 21.216036

162.83 151.58

110.48 49.49

left shoulder L\_shoulder -43.01485 -110.2735 2224.9702

right shoulder R\_shoulder -213.84438 -113.48654 1937.3358

170.82953

first angle mean: 138.45987

first angle stdev: 16.939695

second angle mean: 92.071144

second angle stdev: 21.210632

160.48 148.28

109.17 47.49

left shoulder L\_shoulder -31.963055 -110.374405 2226.6726

right shoulder R\_shoulder -232.3065 -115.565704 1952.1322

200.34344

first angle mean: 138.50546

first angle stdev: 16.951727

second angle mean: 92.106544

second angle stdev: 21.202913

156.39 145.75

109.63 44.73

left shoulder L\_shoulder -18.559097 -107.25386 2209.3232

right shoulder R\_shoulder -256.1951 -113.136086 1957.3513

237.636

first angle mean: 138.54242

first angle stdev: 16.953667

second angle mean: 92.14275

second angle stdev: 21.195938

152.86 145.15

111.64 45.77

left shoulder L\_shoulder -6.0298147 -101.00571 2183.3372

right shoulder R\_shoulder -277.3146 -107.7794 1966.5631

271.2848

first angle mean: 138.57195

first angle stdev: 16.948627

second angle mean: 92.18295

second angle stdev: 21.19254

149.48 144.96

111.09 50.19

left shoulder L\_shoulder 2.3316143 -98.59846 2148.66

right shoulder R\_shoulder -297.52444 -104.63002 1975.5302

299.85605

first angle mean: 138.59439

first angle stdev: 16.938396

second angle mean: 92.221855

second angle stdev: 21.188053

146.45 145.59

112.83 56.18

left shoulder L\_shoulder 9.774626 -103.27402 2096.44

right shoulder R\_shoulder -315.00745 -105.050835 1991.885

324.78207

first angle mean: 138.61052

first angle stdev: 16.924734

second angle mean: 92.264175

second angle stdev: 21.186836

141.02 146.11

113.4 58.12

left shoulder L\_shoulder 21.572994 -103.92263 2032.7892

right shoulder R\_shoulder -318.81235 -104.668465 2009.2418

340.38535

first angle mean: 138.61546

first angle stdev: 16.907734

second angle mean: 92.30748

second angle stdev: 21.186687

131.9 146.15

111.83 64.31

left shoulder L\_shoulder 22.705732 -99.74419 1999.4055

right shoulder R\_shoulder -315.13446 -100.765305 2021.8179

337.84018

first angle mean: 138.60172

first angle stdev: 16.893162

second angle mean: 92.34741

second angle stdev: 21.18338

123.76 147.2

111.61 69.52

left shoulder L\_shoulder 24.00945 -103.07292 1995.3131

right shoulder R\_shoulder -310.34604 -103.18087 2045.5237

334.3555

first angle mean: 138.57143

first angle stdev: 16.889202

second angle mean: 92.38672

second angle stdev: 21.179602

121.5 133.83

107.37 74.23

left shoulder L\_shoulder 29.451178 -109.28842 1976.264

right shoulder R\_shoulder -303.33383 -112.04901 2052.521

332.785

first angle mean: 138.53667

first angle stdev: 16.889538

second angle mean: 92.41723

second angle stdev: 21.168802

134.31 121.23

103.03 77.73

left shoulder L\_shoulder 35.973328 -104.478134 1948.3083

right shoulder R\_shoulder -293.85516 -116.34134 2040.8035

329.8285

first angle mean: 138.52808

first angle stdev: 16.87344

second angle mean: 92.438805

second angle stdev: 21.15268

138.07 104.91

96.45 88.33

left shoulder L\_shoulder 48.500057 -97.677605 1950.0308

right shoulder R\_shoulder -285.66425 -117.7965 2021.9149

334.1643

first angle mean: 138.52715

first angle stdev: 16.85633

second angle mean: 92.446945

second angle stdev: 21.131987

131.33 93.59

91.87 94.87

left shoulder L\_shoulder 57.17041 -95.617134 1955.3162

right shoulder R\_shoulder -280.82672 -113.3023 1982.776

337.99713

first angle mean: 138.51257

first angle stdev: 16.842367

second angle mean: 92.44577

second angle stdev: 21.110601

133.0 92.23

92.26 91.83

left shoulder L\_shoulder 53.67083 -99.75343 1956.5538

right shoulder R\_shoulder -280.9695 -110.3259 1946.3788

334.64035

first angle mean: 138.50143

first angle stdev: 16.827166

second angle mean: 92.44539

second angle stdev: 21.08927

127.85 104.34

94.48 89.36

left shoulder L\_shoulder 45.94839 -101.73057 1966.543

right shoulder R\_shoulder -288.49533 -110.61997 1952.4086

334.44373

first angle mean: 138.47995

first angle stdev: 16.816982

second angle mean: 92.4495

second angle stdev: 21.068197

131.35 118.82

96.53 85.49

left shoulder L\_shoulder 41.19425 -98.73381 1973.5566

right shoulder R\_shoulder -293.5821 -112.21386 1977.4159

334.77634

first angle mean: 138.4656

first angle stdev: 16.803095

second angle mean: 92.45771

second angle stdev: 21.047785

136.03 109.55

98.63 85.92

left shoulder L\_shoulder 35.85388 -100.327805 1978.6626

right shoulder R\_shoulder -298.63443 -114.38243 1999.5457

334.4883

first angle mean: 138.46072

first angle stdev: 16.78657

second angle mean: 92.4701

second angle stdev: 21.028458

140.21 106.66

98.1 85.57

left shoulder L\_shoulder 34.182297 -106.01514 1979.1846

right shoulder R\_shoulder -299.88373 -119.03284 2019.2178

334.06604

first angle mean: 138.46422

first angle stdev: 16.769924

second angle mean: 92.481384

second angle stdev: 21.008884

144.71 70.71

84.79 87.77

left shoulder L\_shoulder 39.321854 -109.19697 1947.0824

right shoulder R\_shoulder -284.2768 -122.38054 1973.2529

323.59863

first angle mean: 138.47672

first angle stdev: 16.75547

second angle mean: 92.466

second angle stdev: 20.990679

147.36 74.52

67.48 91.94

left shoulder L\_shoulder 41.06585 -110.71958 1913.9513

right shoulder R\_shoulder -269.3992 -120.0157 1894.1884

310.46506

first angle mean: 138.49445

first angle stdev: 16.743433

second angle mean: 92.41613

second angle stdev: 20.999352

151.39 136.13

61.31 110.21

left shoulder L\_shoulder 39.993225 -114.297195 1921.7424

right shoulder R\_shoulder -260.55392 -115.55996 1864.7671

300.54715

first angle mean: 138.52014

first angle stdev: 16.736628

second angle mean: 92.354164

second angle stdev: 21.024223

158.08 143.76

55.02 109.61

left shoulder L\_shoulder 23.109213 -118.641136 1943.0562

right shoulder R\_shoulder -272.7976 -120.37561 1901.1755

295.90683

first angle mean: 138.55902

first angle stdev: 16.742668

second angle mean: 92.279945

second angle stdev: 21.069048

159.97 127.66

56.86 105.62

left shoulder L\_shoulder -4.07736 -119.66311 1943.4329

right shoulder R\_shoulder -283.37067 -132.38882 1970.3251

279.2933

first angle mean: 138.6015

first angle stdev: 16.753164

second angle mean: 92.20966

second angle stdev: 21.107067

159.18 105.61

62.38 123.3

left shoulder L\_shoulder -31.70402 -117.74168 1917.4694

right shoulder R\_shoulder -281.58875 -136.50565 2025.4772

249.88472

first angle mean: 138.64224

first angle stdev: 16.76155

second angle mean: 92.15059

second angle stdev: 21.127815

157.19 102.53

60.71 125.83

left shoulder L\_shoulder -54.12423 -117.18006 1908.3322

right shoulder R\_shoulder -276.4388 -134.55016 2063.5486

222.31458

first angle mean: 138.67891

first angle stdev: 16.76523

second angle mean: 92.088455

second angle stdev: 21.153065

158.12 104.0

60.15 124.04

left shoulder L\_shoulder -75.95223 -116.91847 1892.737

right shoulder R\_shoulder -274.59387 -130.07242 2065.5693

198.64163

first angle mean: 138.71725

first angle stdev: 16.770885

second angle mean: 92.02547

second angle stdev: 21.17965

157.21robot count: 5

98.08

53.47 124.07

left shoulder L\_shoulder -92.63328 -110.99066 1879.5453

right shoulder R\_shoulder -271.94077 -125.03694 2055.0283

179.3075

first angle mean: 138.75366

first angle stdev: 16.774406

second angle mean: 91.94957

second angle stdev: 21.227695

156.25 96.57

50.29 123.04

left shoulder L\_shoulder -105.03046 -112.38879 1879.8174

right shoulder R\_shoulder -272.23267 -127.45246 2056.329

167.20221

first angle mean: 138.78804

first angle stdev: 16.775822

second angle mean: 91.86772

second angle stdev: 21.286913

158.65 96.48

50.64 100.93

left shoulder L\_shoulder -116.40866 -114.210464 1870.4427

right shoulder R\_shoulder -266.23343 -134.07219 2077.0251

149.82477

first angle mean: 138.82698

first angle stdev: 16.782383

second angle mean: 91.78689

second angle stdev: 21.344097

159.3 96.86

50.82 93.42

left shoulder L\_shoulder -118.40312 -113.00771 1860.1067

right shoulder R\_shoulder -262.68646 -136.5753 2118.364

144.28334

first angle mean: 138.86705

first angle stdev: 16.79035

second angle mean: 91.70672

second angle stdev: 21.399925

158.34 97.11

48.56 95.63

left shoulder L\_shoulder -116.59985 -109.97912 1866.5697

right shoulder R\_shoulder -258.37344 -132.29376 2155.5732

141.77359

first angle mean: 138.90508

first angle stdev: 16.795963

second angle mean: 91.62244

second angle stdev: 21.46372

158.6 97.21

50.04 97.77

left shoulder L\_shoulder -112.628075 -110.74861 1874.5636

right shoulder R\_shoulder -260.79367 -128.40526 2177.1348

148.16559

first angle mean: 138.94347

first angle stdev: 16.802057

second angle mean: 91.541374

second angle stdev: 21.521088

158.3 118.35

48.09 105.64

left shoulder L\_shoulder -108.90436 -113.4825 1887.2687

right shoulder R\_shoulder -271.4265 -127.66458 2199.3884

162.52216

first angle mean: 138.98112

first angle stdev: 16.807362

second angle mean: 91.45685

second angle stdev: 21.58523

counter:5

157.62 98.46

45.59 133.69

left shoulder L\_shoulder -54.479534 -119.01187 1912.0714

right shoulder R\_shoulder -294.85568 -120.62217 2118.4434

240.37614

first angle mean: 139.01732

first angle stdev: 16.811071

second angle mean: 91.36778

second angle stdev: 21.65859

157.75 92.55

50.66 129.8

left shoulder L\_shoulder -23.181692 -116.87673 1930.6692

right shoulder R\_shoulder -297.37158 -116.00283 2067.3884

274.18988

first angle mean: 139.05363

first angle stdev: 16.81497

second angle mean: 91.288895

second angle stdev: 21.711533

159.35 127.45

55.14 117.14

left shoulder L\_shoulder -2.6357467 -116.92336 1959.6079

right shoulder R\_shoulder -299.38437 -115.95327 2035.6576

296.74863

first angle mean: 139.09288

first angle stdev: 16.822355

second angle mean: 91.21898

second angle stdev: 21.748598

153.76 117.0

57.01 115.61

left shoulder L\_shoulder 10.480044 -120.32461 1985.3231

right shoulder R\_shoulder -294.5415 -117.93809 2038.4512

305.02155

first angle mean: 139.1212

first angle stdev: 16.818434

second angle mean: 91.15293

second angle stdev: 21.779423

145.48 114.91

65.43 106.79

left shoulder L\_shoulder 17.139957 -119.78008 2001.5211

right shoulder R\_shoulder -294.95532 -114.213486 2043.6011

312.09528

first angle mean: 139.13344

first angle stdev: 16.804539

second angle mean: 91.10337

second angle stdev: 21.787651

142.86 130.48

71.56 100.97

left shoulder L\_shoulder 21.313416 -119.0868 2012.4822

right shoulder R\_shoulder -298.14874 -113.72352 2028.6808

319.46216

first angle mean: 139.14061

first angle stdev: 16.789165

second angle mean: 91.06579

second angle stdev: 21.783525

142.4 143.46

76.77 103.23

left shoulder L\_shoulder 22.416445 -122.16189 2019.527

right shoulder R\_shoulder -296.9245 -120.738365 1985.998

319.34094

first angle mean: 139.14687

first angle stdev: 16.773653

second angle mean: 91.038345

second angle stdev: 21.771603

139.59 130.33

82.13 100.01

left shoulder L\_shoulder 14.482363 -129.89926 2021.2009

right shoulder R\_shoulder -299.2326 -128.91606 1952.2821

313.71497

first angle mean: 139.14772

first angle stdev: 16.75759

second angle mean: 91.021286

second angle stdev: 21.754227

138.55 112.31

91.4 93.94

left shoulder L\_shoulder 5.5270643 -130.94348 2011.138

right shoulder R\_shoulder -306.85178 -124.65937 1938.2222

312.37885

first angle mean: 139.14658

first angle stdev: 16.741581

second angle mean: 91.022

second angle stdev: 21.733425

122.62 96.53

101.4 89.79

left shoulder L\_shoulder -0.5915904 -126.65005 1997.5609

right shoulder R\_shoulder -313.28653 -113.83638 1929.6099

312.69495

first angle mean: 139.11504

first angle stdev: 16.741144

second angle mean: 91.04181

second angle stdev: 21.717402

96.27 84.35

104.62 83.26

left shoulder L\_shoulder -4.0015583 -123.32427 1966.3685

right shoulder R\_shoulder -315.23758 -106.5336 1922.9005

311.23602

first angle mean: 139.03342

first angle stdev: 16.829199

second angle mean: 91.06768

second angle stdev: 21.704784

99.05 90.36

101.79 80.34

left shoulder L\_shoulder 2.172262 -125.06029 1921.8242

right shoulder R\_shoulder -308.8626 -115.65195 1906.0306

311.03488

first angle mean: 138.9574

first angle stdev: 16.903166

second angle mean: 91.08806

second angle stdev: 21.68917

77.86 67.35

96.44 81.88

left shoulder L\_shoulder 7.882208 -120.24371 1811.4944

right shoulder R\_shoulder -282.6145 -118.10811 1801.9927

290.4967

first angle mean: 138.84148

first angle stdev: 17.095167

second angle mean: 91.09821

second angle stdev: 21.669836

63.43 68.03

94.63 83.38

left shoulder L\_shoulder 17.739178 -110.35751 1670.8911

right shoulder R\_shoulder -260.3471 -113.87859 1665.5875

278.08627

first angle mean: 138.69865

first angle stdev: 17.390844

second angle mean: 91.104904

second angle stdev: 21.64985

62.55 74.33

93.67 85.82

left shoulder L\_shoulder 16.263142 -111.46586 1717.3512

right shoulder R\_shoulder -261.49765 -110.30714 1699.2316

277.7608

first angle mean: 138.5547

first angle stdev: 17.686451

second angle mean: 91.10975

second angle stdev: 21.629663

64.15 85.9

93.04 86.48

left shoulder L\_shoulder 8.97567 -116.07187 1859.014

right shoulder R\_shoulder -272.45563 -117.80322 1844.6278

281.4313

first angle mean: 138.4143

first angle stdev: 17.962349

second angle mean: 91.11339

second angle stdev: 21.609411

92.44 101.84

95.09 82.81

left shoulder L\_shoulder 4.318863 -103.19203 1882.0294

right shoulder R\_shoulder -276.6072 -116.179276 1901.8873

280.9261

first angle mean: 138.32774

first angle stdev: 18.055784

second angle mean: 91.12088

second angle stdev: 21.589743

77.31 119.1

94.79 81.76

left shoulder L\_shoulder 14.088585 -88.694336 1767.9277

right shoulder R\_shoulder -266.19348 -106.7279 1788.5071

280.28207

first angle mean: 138.21304

first angle stdev: 18.231396

second angle mean: 91.12778

second angle stdev: 21.570026

122.57 142.97

99.11 72.19

left shoulder L\_shoulder 10.34726 -85.70723 1764.1364

right shoulder R\_shoulder -271.23456 -107.71435 1818.0427

281.58182

first angle mean: 138.18369

first angle stdev: 18.22686

second angle mean: 91.14275

second angle stdev: 21.552551

127.58 138.27

104.15 60.85

left shoulder L\_shoulder 11.679483 -81.53927 1813.7008

right shoulder R\_shoulder -281.0471 -109.73818 1915.9498

292.72656

first angle mean: 138.16385

first angle stdev: 18.215557

second angle mean: 91.167114

second angle stdev: 21.539703

132.99 136.81

107.19 59.59

left shoulder L\_shoulder 17.331703 -90.41388 1913.5757

right shoulder R\_shoulder -286.80508 -109.41543 1989.6461

304.13678

first angle mean: 138.15416

first angle stdev: 18.199896

second angle mean: 91.19707

second angle stdev: 21.53069

136.3 143.97

107.19 61.7

left shoulder L\_shoulder 24.559303 -98.65199 1985.5193

right shoulder R\_shoulder -288.8996 -109.50947 2003.7122

313.4589

first angle mean: 138.15071

first angle stdev: 18.183086

second angle mean: 91.2269

second angle stdev: 21.521664

150.32 150.23

110.0 57.04

left shoulder L\_shoulder 26.360718 -105.10699 2032.5367

right shoulder R\_shoulder -286.2259 -110.08922 1999.5607

312.5866

first angle mean: 138.17337

first angle stdev: 18.173723

second angle mean: 91.261856

second angle stdev: 21.516844

154.73 153.39

108.17 55.75

left shoulder L\_shoulder 8.614571 -115.21204 2091.1858

right shoulder R\_shoulder -273.76385 -115.37996 1969.0396

282.37842

first angle mean: 138.20415

first angle stdev: 18.170826

second angle mean: 91.29329

second angle stdev: 21.50917

143.08 153.96

115.61 58.3

left shoulder L\_shoulder -9.014913 -125.17093 2135.9666

right shoulder R\_shoulder -247.97089 -122.48385 1949.3612

238.95598

first angle mean: 138.21318

first angle stdev: 18.155174

second angle mean: 91.3384

second angle stdev: 21.514671

137.32 153.73

108.66 61.15

left shoulder L\_shoulder -30.803411 -127.88916 2181.4512

right shoulder R\_shoulder -206.33078 -126.20571 1934.2211

175.52737

first angle mean: 138.21155

first angle stdev: 18.138395

second angle mean: 91.370476

second angle stdev: 21.507637

132.13 154.52

106.99 59.15

left shoulder L\_shoulder -52.012943 -129.125 2209.9597

right shoulder R\_shoulder -177.65776 -125.44674 1928.2057

125.64482

first angle mean: 138.2003

first angle stdev: 18.123507

second angle mean: 91.399345

second angle stdev: 21.498222

129.82 154.97

106.1 59.06

left shoulder L\_shoulder -65.3871 -135.354 2222.5637

right shoulder R\_shoulder -154.10202 -130.10005 1922.3156

88.71492

first angle mean: 138.18483

first angle stdev: 18.110352

second angle mean: 91.426476

second angle stdev: 21.487644

124.4 156.01

109.6 57.49

left shoulder L\_shoulder -72.93927 -139.82922 2227.1274

right shoulder R\_shoulder -135.15652 -131.94456 1907.6663

62.217255

first angle mean: 138.15944

first angle stdev: 18.103317

second angle mean: 91.459946

second angle stdev: 21.481985

114.52 156.14

119.07 55.92

left shoulder L\_shoulder -76.93896 -139.37276 2232.3599

right shoulder R\_shoulder -124.57609 -128.14137 1898.0854

47.63713

first angle mean: 138.11598

first angle stdev: 18.114996

second angle mean: 91.5107

second angle stdev: 21.494793

118.97 154.72

114.43 52.81

left shoulder L\_shoulder -80.600044 -137.82495 2236.4224

right shoulder R\_shoulder -124.600426 -125.317825 1896.4987

44.00038

first angle mean: 138.08086

first angle stdev: 18.116907

second angle mean: 91.55275

second angle stdev: 21.497452

123.26 152.71

110.77 53.43

left shoulder L\_shoulder -73.34725 -132.65248 2235.4092

right shoulder R\_shoulder -131.12195 -125.07484 1895.9774

57.774696

first angle mean: 138.05371

first angle stdev: 18.111399

second angle mean: 91.58795

second angle stdev: 21.493467

128.26 152.31

109.93 54.34

left shoulder L\_shoulder -64.092995 -128.91458 2231.5574

right shoulder R\_shoulder -141.70245 -127.49642 1895.791

77.60946

first angle mean: 138.03583

first angle stdev: 18.09967

second angle mean: 91.62148

second angle stdev: 21.488102

132.34 152.17

108.98 54.67

left shoulder L\_shoulder -60.69074 -126.01602 2232.3018

right shoulder R\_shoulder -150.33754 -129.27788 1899.4601

89.646805

first angle mean: 138.02542

first angle stdev: 18.084782

second angle mean: 91.65316

second angle stdev: 21.481266

134.14 153.82

106.77 50.53

left shoulder L\_shoulder -61.29511 -123.612656 2231.502

right shoulder R\_shoulder -157.82706 -129.55899 1897.2303

96.53195

first angle mean: 138.01833

first angle stdev: 18.069065

second angle mean: 91.68069

second angle stdev: 21.471369

133.32 155.84

106.61 46.29

left shoulder L\_shoulder -58.803112 -123.15892 2237.4229

right shoulder R\_shoulder -162.97572 -128.43898 1890.8602

104.17261

first angle mean: 138.0098

first angle stdev: 18.05374

second angle mean: 91.70783

second angle stdev: 21.461267

134.02 156.3

107.46 46.64

left shoulder L\_shoulder -58.625072 -127.7372 2243.0986

right shoulder R\_shoulder -170.90263 -129.21893 1894.6766

112.27756

first angle mean: 138.00255

first angle stdev: 18.038149

second angle mean: 91.73643

second angle stdev: 21.452265

134.94 154.99

110.53 48.91

left shoulder L\_shoulder -44.52484 -125.10952 2233.8508

right shoulder R\_shoulder -182.8407 -127.75381 1899.5657

138.31586

first angle mean: 137.99701

first angle stdev: 18.022274

second angle mean: 91.77047

second angle stdev: 21.44772

135.64 153.29

114.92 50.11

left shoulder L\_shoulder -27.859802 -120.460915 2223.9102

right shoulder R\_shoulder -202.74164 -125.0398 1907.259

174.88184

first angle mean: 137.99274

first angle stdev: 18.00625

second angle mean: 91.81233

second angle stdev: 21.450876

136.95 148.91

114.82 53.04

left shoulder L\_shoulder -14.970451 -116.2279 2216.5117

right shoulder R\_shoulder -218.8653 -123.20542 1915.9365

203.89484

first angle mean: 137.99086

first angle stdev: 17.990046

second angle mean: 91.85386

second angle stdev: 21.453749

138.61 145.24

113.48 53.41

left shoulder L\_shoulder -8.396119 -114.862 2211.429

right shoulder R\_shoulder -234.77325 -122.1717 1926.1332

226.37714

first angle mean: 137.99197

first angle stdev: 17.97385

second angle mean: 91.89283

second angle stdev: 21.454025

149.14 142.3

114.35 57.01

left shoulder L\_shoulder 11.433527 -111.81221 2179.835

right shoulder R\_shoulder -260.3374 -121.84346 1940.1896

271.77094

first angle mean: 138.01202

first angle stdev: 17.963892

second angle mean: 91.93322

second angle stdev: 21.455833

143.64 134.4

122.19 54.28

left shoulder L\_shoulder 45.36404 -102.76999 2096.7942

right shoulder R\_shoulder -286.91663 -120.14814 1963.3617

332.28067

first angle mean: 138.02214

first angle stdev: 17.949339

second angle mean: 91.98754

second angle stdev: 21.474796

124.65 132.66

121.8 66.28

left shoulder L\_shoulder 54.788654 -105.98166 2040.3755

right shoulder R\_shoulder -291.97394 -125.778885 1975.4283

346.7626

first angle mean: 137.99818

first angle stdev: 17.942165

second angle mean: 92.04097

second angle stdev: 21.492567

113.12 141.31

120.51 75.92

left shoulder L\_shoulder 43.290188 -110.35783 2009.3794

right shoulder R\_shoulder -293.31967 -126.11467 1963.8551

336.60986

first angle mean: 137.95367

first angle stdev: 17.95691

second angle mean: 92.09189

second angle stdev: 21.507008

118.15 137.06

114.98 81.28

left shoulder L\_shoulder 43.322376 -118.51724 2005.2318

right shoulder R\_shoulder -293.01913 -128.75917 1956.3541

336.34152

first angle mean: 137.9183

first angle stdev: 17.960342

second angle mean: 92.132774

second angle stdev: 21.509514

120.41 128.93

102.37 84.96

left shoulder L\_shoulder 44.69918 -126.91547 1935.7898

right shoulder R\_shoulder -288.4673 -129.27658 1893.7987

333.16647

first angle mean: 137.8871

first angle stdev: 17.95952

second angle mean: 92.151024

second angle stdev: 21.494673

136.15 122.75

102.7 85.4

left shoulder L\_shoulder 44.785297 -123.61053 1845.0947

right shoulder R\_shoulder -287.5875 -132.85498 1844.4546

332.3728

first angle mean: 137.884

first angle stdev: 17.943684

second angle mean: 92.16979

second angle stdev: 21.48014

141.48 125.77

103.68 83.03

left shoulder L\_shoulder 41.604527 -111.28337 1792.1725

right shoulder R\_shoulder -288.9655 -127.71584 1825.7167

330.57004

first angle mean: 137.8904

first angle stdev: 17.92838

second angle mean: 92.19023

second angle stdev: 21.466528

131.7 118.47

103.03 81.92

left shoulder L\_shoulder 34.55301 -105.295944 1772.7084

right shoulder R\_shoulder -291.00406 -124.38483 1816.2175

325.55707

first angle mean: 137.87943

first angle stdev: 17.914371

second angle mean: 92.20946

second angle stdev: 21.452337

107.62 104.0

100.51 84.52

left shoulder L\_shoulder 29.004145 -103.78377 1782.7645

right shoulder R\_shoulder -293.90594 -124.81153 1825.3007

322.9101

first angle mean: 137.82587

first angle stdev: 17.943647

second angle mean: 92.224144

second angle stdev: 21.436184

92.85 96.71

100.07 90.5

left shoulder L\_shoulder 19.202261 -111.45975 1856.0917

right shoulder R\_shoulder -299.95862 -125.56346 1881.5614

319.1609

first angle mean: 137.7464

first angle stdev: 18.027012

second angle mean: 92.23801

second angle stdev: 21.419773

108.62 84.95

97.78 97.61

left shoulder L\_shoulder 17.950281 -118.17144 1880.3617

right shoulder R\_shoulder -296.65714 -122.65191 1881.3411

314.60742

first angle mean: 137.69504

first angle stdev: 18.052523

second angle mean: 92.24778

second angle stdev: 21.40214

129.5 79.64

89.37 99.05

left shoulder L\_shoulder 19.867289 -123.77526 1899.796

right shoulder R\_shoulder -286.0053 -126.90677 1886.9717

305.8726

first angle mean: 137.68059

first angle stdev: 18.039896

second angle mean: 92.242714

second angle stdev: 21.383633

137.6 79.7

85.08 94.53

left shoulder L\_shoulder 24.363827 -130.93349 1959.9012

right shoulder R\_shoulder -281.342 -138.78763 1946.7905

305.70584

first angle mean: 137.68045

first angle stdev: 18.024036

second angle mean: 92.230125

second angle stdev: 21.36694

143.07 91.26

81.23 91.79

left shoulder L\_shoulder 24.045126 -130.5723 1976.8008

right shoulder R\_shoulder -281.47482 -137.99391 1972.5143

305.51996

first angle mean: 137.68991

first angle stdev: 18.009632

second angle mean: 92.21083

second angle stdev: 21.353151

146.91 96.55

77.62 96.91

left shoulder L\_shoulder 21.138681 -126.78032 1994.8914

right shoulder R\_shoulder -282.8496 -133.64792 2025.8467

303.98828

first angle mean: 137.70607

first angle stdev: 17.997984

second angle mean: 92.18527

second angle stdev: 21.343166

148.17 104.99

68.16 110.12

left shoulder L\_shoulder 20.946474 -123.34845 1995.2676

right shoulder R\_shoulder -279.53375 -131.10857 2044.9529

300.48022

first angle mean: 137.72435

first angle stdev: 17.987556

second angle mean: 92.14327

second angle stdev: 21.348108

155.37 104.43

61.67 119.16

left shoulder L\_shoulder 9.713979 -124.18038 1987.006

right shoulder R\_shoulder -280.7824 -130.92755 2064.4114

290.4964

first angle mean: 137.75516

first angle stdev: 17.98694

second angle mean: 92.09009

second angle stdev: 21.367361

158.83 103.28

60.57 123.41

left shoulder L\_shoulder -10.2719965 -118.41272 1952.668

right shoulder R\_shoulder -281.28488 -126.73378 2067.4272

271.01288

first angle mean: 137.79187

first angle stdev: 17.992743

second angle mean: 92.03518

second angle stdev: 21.38917

156.73 103.36

60.4 127.8

left shoulder L\_shoulder -34.916893 -112.77878 1913.2524

right shoulder R\_shoulder -280.27472 -127.076744 2066.235

245.35782

first angle mean: 137.82481

first angle stdev: 17.9944

second angle mean: 91.98016

second angle stdev: 21.411173

155.01 100.78

55.32 127.68

left shoulder L\_shoulder -58.462498 -105.54793 1878.5812

right shoulder R\_shoulder -277.312 -128.59106 2051.236

218.84952

first angle mean: 137.85463

first angle stdev: 17.993002

second angle mean: 91.91651

second angle stdev: 21.44695

157.36 103.43

55.07 122.27

left shoulder L\_shoulder -83.713875 -96.83798 1851.602

right shoulder R\_shoulder -271.26346 -128.8565 2028.27

187.54959

first angle mean: 137.88843

first angle stdev: 17.9957

second angle mean: 91.85265

second angle stdev: 21.483095

counter:6

158.53 136.65

54.6 116.18

left shoulder L\_shoulder -106.85962 -96.468185 1851.3914

right shoulder R\_shoulder -264.09338 -127.12711 2053.7456

157.23376

first angle mean: 137.92415

first angle stdev: 18.00058

second angle mean: 91.78821

second angle stdev: 21.520264

166.98 130.2

58.22 109.48

left shoulder L\_shoulder -117.84183 -100.79299 1867.316

right shoulder R\_shoulder -260.6621 -128.72876 2094.4546

142.82028

first angle mean: 137.97433

first angle stdev: 18.02545

second angle mean: 91.730225

second angle stdev: 21.546803

157.13 125.3

48.77 99.33

left shoulder L\_shoulder -108.349075 -107.24412 1870.5237

right shoulder R\_shoulder -263.67108 -129.81607 2160.4536

155.322

first angle mean: 138.00735

first angle stdev: 18.027428

second angle mean: 91.65616

second angle stdev: 21.60187

152.37 125.6

53.95 103.69

left shoulder L\_shoulder -89.95646 -110.951965 1883.5933

right shoulder R\_shoulder -274.06512 -127.67078 2179.3953

184.10867

first angle mean: 138.03209

first angle stdev: 18.021744

second angle mean: 91.59126

second angle stdev: 21.639791

152.88 130.57

58.21 105.07

left shoulder L\_shoulder -66.945564 -117.11896 1890.4672

right shoulder R\_shoulder -279.57944 -126.159355 2174.9702

212.63388

first angle mean: 138.05759

first angle stdev: 18.01675

second angle mean: 91.5339

second angle stdev: 21.665346

154.48 138.43

50.31 111.44

left shoulder L\_shoulder -36.575096 -122.33743 1913.206

right shoulder R\_shoulder -286.52725 -124.62672 2154.605

249.95215

first angle mean: 138.08577

first angle stdev: 18.014116

second angle mean: 91.46319

second angle stdev: 21.713867

156.04 141.1

60.16 111.07

left shoulder L\_shoulder -6.3046956 -121.94382 1939.1866

right shoulder R\_shoulder -298.10138 -119.052704 2115.0535

291.7967

first angle mean: 138.1165

first angle stdev: 18.013988

second angle mean: 91.40959

second angle stdev: 21.733837

150.93 137.06

59.76 112.37

left shoulder L\_shoulder 17.427773 -122.71016 1970.1626

right shoulder R\_shoulder -303.8959 -118.696304 2076.6523

321.32367

first angle mean: 138.13841

first angle stdev: 18.006367

second angle mean: 91.35549

second angle stdev: 21.754578

140.25 123.18

66.37 115.43

left shoulder L\_shoulder 28.36998 -122.95025 2005.6007

right shoulder R\_shoulder -304.3922 -118.83837 2046.5271

332.7622

first angle mean: 138.14201

first angle stdev: 17.991207

second angle mean: 91.31285

second angle stdev: 21.760456

131.71 114.24

85.44 116.6

left shoulder L\_shoulder 24.303003 -128.5392 2023.0948

right shoulder R\_shoulder -308.27832 -124.82662 2030.9473

332.58133

first angle mean: 138.13106

first angle stdev: 17.97783

second angle mean: 91.30285

second angle stdev: 21.743263

128.43 110.59

96.73 103.34

left shoulder L\_shoulder 13.363882 -136.04047 2024.6301

right shoulder R\_shoulder -314.3136 -135.51752 1997.2086

327.6775

first angle mean: 138.11456

first angle stdev: 17.966986

second angle mean: 91.31207

second angle stdev: 21.725918

120.25 107.14

101.64 91.42

left shoulder L\_shoulder 7.4486732 -134.78668 2017.3717

right shoulder R\_shoulder -316.56204 -131.29431 1972.0839

324.0107

first angle mean: 138.08423

first angle stdev: 17.966785

second angle mean: 91.32961

second angle stdev: 21.71163

115.73 115.04

105.06 75.66

left shoulder L\_shoulder 8.060367 -130.56422 1971.2881

right shoulder R\_shoulder -319.5018 -127.19925 1972.1953

327.56216

first angle mean: 138.04634

first angle stdev: 17.975088

second angle mean: 91.35289

second angle stdev: 21.700573

108.65 123.51

107.41 67.93

left shoulder L\_shoulder 9.477899 -124.95332 1911.4309

right shoulder R\_shoulder -311.5787 -122.638435 1978.148

321.0566

first angle mean: 137.99658

first angle stdev: 18.000467

second angle mean: 91.38005

second angle stdev: 21.692247

95.93 115.17

101.37 74.41

left shoulder L\_shoulder 19.639034 -114.66076 1810.8793

right shoulder R\_shoulder -295.11447 -125.95683 1891.818

314.7535

first angle mean: 137.92554

first angle stdev: 18.068027

second angle mean: 91.396935

second angle stdev: 21.677801

90.06 106.89

95.0 85.5

left shoulder L\_shoulder 30.245125 -109.88363 1788.3835

right shoulder R\_shoulder -282.94302 -125.7077 1827.727

313.18814

first angle mean: 137.84482

first angle stdev: 18.1593

second angle mean: 91.40301

second angle stdev: 21.66002

113.74 113.6

95.42 88.48

left shoulder L\_shoulder 35.384575 -101.71019 1762.7351

right shoulder R\_shoulder -278.34888 -120.12943 1792.0446

313.73346

first angle mean: 137.80424

first angle stdev: 18.170898

second angle mean: 91.40976

second angle stdev: 21.642406

115.47 110.46

98.41 87.6

left shoulder L\_shoulder 30.211172 -96.82951 1748.5543

right shoulder R\_shoulder -279.21237 -117.42942 1781.3254

309.42355

first angle mean: 137.76671

first angle stdev: 18.178658

second angle mean: 91.42153

second angle stdev: 21.626112

101.91 109.16

96.64 85.43

left shoulder L\_shoulder 27.51802 -96.691605 1763.9196

right shoulder R\_shoulder -281.28113 -117.94962 1798.8215

308.79913

first angle mean: 137.70654

first angle stdev: 18.222588

second angle mean: 91.43029

second angle stdev: 21.609018

99.34 121.77

95.05 82.17

left shoulder L\_shoulder 21.764114 -106.810844 1878.4807

right shoulder R\_shoulder -288.0116 -122.763756 1908.3875

309.7757

first angle mean: 137.64227

first angle stdev: 18.274792

second angle mean: 91.43635

second angle stdev: 21.59142

robot count: 6

104.78 134.47

94.16 79.64

left shoulder L\_shoulder 23.122503 -116.72608 1926.3116

right shoulder R\_shoulder -288.2124 -124.148705 1932.6251

311.3349

first angle mean: 137.58733

first angle stdev: 18.30881

second angle mean: 91.44091

second angle stdev: 21.573647

114.04 144.66

94.26 77.12

left shoulder L\_shoulder 17.615929 -118.08721 1974.1399

right shoulder R\_shoulder -292.16974 -120.44089 1945.688

309.78568

first angle mean: 137.548

first angle stdev: 18.31876

second angle mean: 91.44561

second angle stdev: 21.555939

128.45 147.89

98.58 70.13

left shoulder L\_shoulder 14.72321 -115.62575 1955.3317

right shoulder R\_shoulder -294.47305 -118.18257 1946.1028

309.19626

first angle mean: 137.53285

first angle stdev: 18.30725

second angle mean: 91.4575

second angle stdev: 21.539932

144.18 150.12

109.29 61.29

left shoulder L\_shoulder 16.297773 -118.1091 1966.978

right shoulder R\_shoulder -292.8355 -122.150795 1969.7719

309.13327

first angle mean: 137.54391

first angle stdev: 18.294018

second angle mean: 91.48717

second angle stdev: 21.534273

151.7 152.24

117.02 49.84

left shoulder L\_shoulder 17.020075 -123.75525 2003.1566

right shoulder R\_shoulder -288.6434 -125.26698 1990.3392

305.66348

first angle mean: 137.56743

first angle stdev: 18.287907

second angle mean: 91.52959

second angle stdev: 21.541489

152.74 151.29

112.35 50.7

left shoulder L\_shoulder 18.01054 -131.27174 2074.8774

right shoulder R\_shoulder -275.211 -134.1112 2002.0466

293.22153

first angle mean: 137.59259

first angle stdev: 18.283161

second angle mean: 91.56412

second angle stdev: 21.540287

139.99 150.59

119.06 59.59

left shoulder L\_shoulder 6.9690714 -131.0415 2129.6814

right shoulder R\_shoulder -245.4144 -137.01117 1971.9321

252.38347

first angle mean: 137.59656

first angle stdev: 18.26828

second angle mean: 91.609634

second angle stdev: 21.551458

130.96 156.05

111.15 65.12

left shoulder L\_shoulder -16.856672 -131.63823 2165.7913

right shoulder R\_shoulder -210.22223 -137.67987 1938.1157

193.36555

first angle mean: 137.58559

first angle stdev: 18.255167

second angle mean: 91.64194

second angle stdev: 21.548265

129.5 160.7

107.85 59.41

left shoulder L\_shoulder -44.418194 -134.69475 2178.0857

right shoulder R\_shoulder -183.6252 -135.11508 1913.4684

139.207

first angle mean: 137.57225

first angle stdev: 18.243052

second angle mean: 91.66868

second angle stdev: 21.540527

132.84 162.07

108.6 59.32

left shoulder L\_shoulder -69.141975 -147.55545 2183.7432

right shoulder R\_shoulder -156.26378 -139.47322 1897.8153

87.1218

first angle mean: 137.56445

first angle stdev: 18.229029

second angle mean: 91.69657

second angle stdev: 21.533728

135.69 161.15

107.03 58.14

left shoulder L\_shoulder -72.865616 -152.26353 2184.7314

right shoulder R\_shoulder -149.41812 -142.61661 1893.8973

76.552505

first angle mean: 137.56137

first angle stdev: 18.21419

second angle mean: 91.721794

second angle stdev: 21.52498

133.52 160.9

108.45 54.82

left shoulder L\_shoulder -76.41078 -153.12296 2192.2615

right shoulder R\_shoulder -140.51007 -142.87617 1892.6652

64.09929

first angle mean: 137.55473

first angle stdev: 18.199965

second angle mean: 91.74926

second angle stdev: 21.517963

133.54 159.2

108.42 53.73

left shoulder L\_shoulder -71.05598 -144.54303 2199.5908

right shoulder R\_shoulder -138.49847 -138.60112 1897.6855

67.4425

first angle mean: 137.54814

first angle stdev: 18.185764

second angle mean: 91.776596

second angle stdev: 21.510893

132.28 157.87

110.26 54.46

left shoulder L\_shoulder -65.71882 -135.07321 2211.6638

right shoulder R\_shoulder -142.73804 -136.3927 1906.7817

77.01922

first angle mean: 137.53952

first angle stdev: 18.172125

second angle mean: 91.80684

second angle stdev: 21.506266

136.14 157.67

109.74 53.79

left shoulder L\_shoulder -62.07239 -132.10542 2214.8508

right shoulder R\_shoulder -156.6178 -137.08533 1912.4005

94.54541

first angle mean: 137.53723

first angle stdev: 18.15736

second angle mean: 91.83615

second angle stdev: 21.500893

136.86 158.52

109.29 52.53

left shoulder L\_shoulder -53.401375 -130.96376 2212.9646

right shoulder R\_shoulder -173.95197 -135.75887 1914.9905

120.55059

first angle mean: 137.53613

first angle stdev: 18.142563

second angle mean: 91.86462

second angle stdev: 21.49489

137.95 154.82

109.39 51.92

left shoulder L\_shoulder -42.84975 -131.92113 2212.8794

right shoulder R\_shoulder -198.64803 -136.8043 1924.4014

155.79828

first angle mean: 137.5368

first angle stdev: 18.127792

second angle mean: 91.893166

second angle stdev: 21.489002

136.92 152.02

111.43 51.53

left shoulder L\_shoulder -30.12935 -125.61695 2216.0803

right shoulder R\_shoulder -216.72818 -137.24756 1945.8846

186.59883

first angle mean: 137.5358

first angle stdev: 18.113066

second angle mean: 91.92493

second angle stdev: 21.485949

137.54 149.48

111.26 52.45

left shoulder L\_shoulder -17.61301 -115.94658 2193.2961

right shoulder R\_shoulder -231.06473 -130.72221 1943.3663

213.45172

first angle mean: 137.53581

first angle stdev: 18.098358

second angle mean: 91.95632

second angle stdev: 21.48261

143.44 145.46

115.32 51.53

left shoulder L\_shoulder -3.5837145 -110.73432 2182.517

right shoulder R\_shoulder -257.60458 -129.88353 1973.6798

254.02087

first angle mean: 137.54538

first angle stdev: 18.085245

second angle mean: 91.99419

second angle stdev: 21.485758

144.13 144.29

118.11 50.86

left shoulder L\_shoulder 8.146659 -113.713104 2143.8699

right shoulder R\_shoulder -274.67627 -130.7728 1977.2601

282.82294

first angle mean: 137.55603

first angle stdev: 18.072544

second angle mean: 92.036446

second angle stdev: 21.494013

141.14 140.95

114.5 54.87

left shoulder L\_shoulder 19.327583 -119.95573 2102.343

right shoulder R\_shoulder -287.16644 -138.50484 1998.6534

306.49402

first angle mean: 137.56181

first angle stdev: 18.058514

second angle mean: 92.07274

second angle stdev: 21.495584

147.98 141.77

110.77 59.78

left shoulder L\_shoulder 24.581673 -121.424545 2054.3333

right shoulder R\_shoulder -293.55463 -137.98996 2005.8324

318.1363

first angle mean: 137.57863

first angle stdev: 18.048788

second angle mean: 92.10288

second angle stdev: 21.491343

138.76 147.84

110.03 64.93

left shoulder L\_shoulder 24.43522 -115.08829 1995.3534

right shoulder R\_shoulder -295.761 -128.21255 2010.9675

320.1962

first angle mean: 137.58054

first angle stdev: 18.034313

second angle mean: 92.13175

second angle stdev: 21.48606

140.58 149.1

111.55 69.31

left shoulder L\_shoulder 24.677233 -112.41094 1905.0538

right shoulder R\_shoulder -286.7426 -126.440155 1980.5669

311.41986

first angle mean: 137.58536

first angle stdev: 18.020208

second angle mean: 92.16298

second angle stdev: 21.482872

146.84 137.74

110.96 72.57

left shoulder L\_shoulder 24.899916 -109.022224 1847.3359

right shoulder R\_shoulder -278.93307 -130.55309 1955.45

303.83298

first angle mean: 137.6002

first angle stdev: 18.009552

second angle mean: 92.193146

second angle stdev: 21.478811

140.38 121.08

106.32 80.4

left shoulder L\_shoulder 26.305332 -108.83596 1795.2372

right shoulder R\_shoulder -271.06097 -137.58643 1900.145

297.3663

first angle mean: 137.60466

first angle stdev: 17.995459

second angle mean: 92.21578

second angle stdev: 21.46903

137.2 99.44

99.88 94.61

left shoulder L\_shoulder 37.809856 -112.08644 1781.7432

right shoulder R\_shoulder -265.99637 -137.04442 1849.1785

303.8062

first angle mean: 137.60402

first angle stdev: 17.981064

second angle mean: 92.22805

second angle stdev: 21.454035

131.94 85.66

99.96 93.95

left shoulder L\_shoulder 35.055477 -115.52469 1783.9305

right shoulder R\_shoulder -268.18442 -137.88795 1818.4307

303.2399

first angle mean: 137.59497

first angle stdev: 17.96812

second angle mean: 92.2404

second angle stdev: 21.439116

134.4 103.62

102.02 88.4

left shoulder L\_shoulder 24.457424 -118.56406 1842.2197

right shoulder R\_shoulder -280.67462 -136.04187 1864.5648

305.13205

first angle mean: 137.58987

first angle stdev: 17.954239

second angle mean: 92.256

second angle stdev: 21.425568

136.04 125.34

104.47 82.72

left shoulder L\_shoulder 13.014181 -121.591255 1908.5463

right shoulder R\_shoulder -293.59317 -137.99394 1939.8843

306.60736

first angle mean: 137.5874

first angle stdev: 17.940044

second angle mean: 92.275444

second angle stdev: 21.41404

139.06 133.63

106.86 79.19

left shoulder L\_shoulder 6.3028183 -125.55322 1949.8267

right shoulder R\_shoulder -300.8251 -144.01138 2004.7743

307.12793

first angle mean: 137.58975

first angle stdev: 17.925875

second angle mean: 92.29864

second angle stdev: 21.404898

132.42 129.59

108.83 79.13

left shoulder L\_shoulder -0.60404867 -125.93854 1939.2748

right shoulder R\_shoulder -302.2175 -146.48616 2015.7249

301.61346

first angle mean: 137.58154

first angle stdev: 17.912825

second angle mean: 92.324875

second angle stdev: 21.398026

124.82 121.22

109.0 79.43

left shoulder L\_shoulder -5.1199346 -118.788795 1923.793

right shoulder R\_shoulder -303.93262 -144.27022 2025.8667

298.81268

first angle mean: 137.56131

first angle stdev: 17.90582

second angle mean: 92.3513

second angle stdev: 21.39135

130.74 112.22

107.24 83.29

left shoulder L\_shoulder -7.599592 -122.599106 1936.8687

right shoulder R\_shoulder -306.82983 -148.46703 2044.0919

299.23026

first angle mean: 137.55052

first angle stdev: 17.893705

second angle mean: 92.37486

second angle stdev: 21.38261

122.52 132.11

95.04 97.45

left shoulder L\_shoulder 10.910346 -127.99287 1937.0271

right shoulder R\_shoulder -294.73465 -146.87207 1990.8981

305.645

first angle mean: 137.52678

first angle stdev: 17.889526

second angle mean: 92.379074

second angle stdev: 21.365976

123.42 139.9

76.57 105.46

left shoulder L\_shoulder 28.446867 -131.51903 1945.0569

right shoulder R\_shoulder -282.65387 -139.23444 1923.3309

311.10074

first angle mean: 137.50453

first angle stdev: 17.884176

second angle mean: 92.35414

second angle stdev: 21.358335

137.5 140.28

64.87 108.65

left shoulder L\_shoulder 26.59748 -129.4735 2012.1462

right shoulder R\_shoulder -264.40457 -128.98557 1897.0027

291.00204

first angle mean: 137.50453

first angle stdev: 17.870089

second angle mean: 92.31085

second angle stdev: 21.36932

109.59 130.64

58.8 110.88

left shoulder L\_shoulder 22.476301 -123.5512 2047.39

right shoulder R\_shoulder -265.44693 -128.69412 1957.3033

287.92322

first angle mean: 137.46063

first angle stdev: 17.890255

second angle mean: 92.25816

second angle stdev: 21.393753

155.24 126.59

59.3 110.57

left shoulder L\_shoulder 9.356141 -121.59344 2010.9163

right shoulder R\_shoulder -271.7306 -127.47028 1992.7257

281.08673

first angle mean: 137.48854

first angle stdev: 17.89006

second angle mean: 92.20642

second angle stdev: 21.416739

160.82 101.56

58.61 123.3

left shoulder L\_shoulder -10.878802 -124.43037 1976.6555

right shoulder R\_shoulder -272.1742 -134.48634 2047.4019

261.29538

first angle mean: 137.52512

first angle stdev: 17.899845

second angle mean: 92.15376

second angle stdev: 21.441181

155.3 97.61

61.98 126.82

left shoulder L\_shoulder -36.348343 -125.43727 1937.1337

right shoulder R\_shoulder -266.5546 -139.88655 2073.6343

230.20625

first angle mean: 137.55293

first angle stdev: 17.89963

second angle mean: 92.10654

second angle stdev: 21.457571

157.18 104.57

55.06 127.21

left shoulder L\_shoulder -64.41032 -121.48527 1901.3433

right shoulder R\_shoulder -262.13452 -142.21861 2066.852

197.72421

first angle mean: 137.58359

first angle stdev: 17.902431

second angle mean: 92.04866

second angle stdev: 21.490673

counter:7

158.43 114.02

52.4 125.9

left shoulder L\_shoulder -106.96715 -113.26895 1876.2181

right shoulder R\_shoulder -261.81506 -140.37207 2054.5664

154.84792

first angle mean: 137.61612

first angle stdev: 17.907372

second angle mean: 91.9868

second angle stdev: 21.530842

158.54 130.94

56.96 110.07

left shoulder L\_shoulder -129.55789 -115.881676 1896.6804

right shoulder R\_shoulder -264.3954 -138.95364 2107.3738

134.8375

first angle mean: 137.64871

first angle stdev: 17.912436

second angle mean: 91.93224

second angle stdev: 21.558363

166.54 133.25

60.84 104.41

left shoulder L\_shoulder -138.85593 -117.89401 1874.2781

right shoulder R\_shoulder -269.68817 -145.95052 2155.9531

130.83224

first angle mean: 137.69363

first angle stdev: 17.934673

second angle mean: 91.88389

second angle stdev: 21.576408

163.35 135.79

65.64 106.2

left shoulder L\_shoulder -140.7836 -118.84507 1865.2369

right shoulder R\_shoulder -266.08978 -147.61484 2167.2678

125.30618

first angle mean: 137.73347

first angle stdev: 17.949194

second angle mean: 91.84314

second angle stdev: 21.5844

160.7 137.02

66.89 107.78

left shoulder L\_shoulder -135.08015 -118.53761 1861.4358

right shoulder R\_shoulder -260.84375 -146.13123 2169.6956

125.763596

first angle mean: 137.76909

first angle stdev: 17.958023

second angle mean: 91.80445

second angle stdev: 21.589994

159.83 136.24

66.33 109.16

left shoulder L\_shoulder -124.33427 -118.78544 1868.7013

right shoulder R\_shoulder -253.65764 -142.44005 2181.715

129.32336

first angle mean: 137.80324

first angle stdev: 17.965065

second angle mean: 91.76502

second angle stdev: 21.596512

161.01 134.78

63.85 112.62

left shoulder L\_shoulder -107.18674 -119.06111 1867.8717

right shoulder R\_shoulder -249.90256 -137.7282 2175.7603

142.71582

first angle mean: 137.8391

first angle stdev: 17.974312

second angle mean: 91.72187

second angle stdev: 21.60766

160.46 128.52

60.76 116.56

left shoulder L\_shoulder -83.18554 -122.7955 1880.3201

right shoulder R\_shoulder -254.69333 -135.88744 2173.6003

171.50778

first angle mean: 137.87401

first angle stdev: 17.982374

second angle mean: 91.674095

second angle stdev: 21.62516

159.31 134.75

53.9 115.17

left shoulder L\_shoulder -54.533325 -126.27843 1904.2609

right shoulder R\_shoulder -268.3637 -132.27562 2167.382

213.83038

first angle mean: 137.90704

first angle stdev: 17.988174

second angle mean: 91.61589

second angle stdev: 21.65923

158.83 139.68

54.02 112.27

left shoulder L\_shoulder -30.853645 -127.307625 1923.3982

right shoulder R\_shoulder -285.96762 -129.3497 2137.1938

255.11398

first angle mean: 137.93922

first angle stdev: 17.993029

second angle mean: 91.558044

second angle stdev: 21.692665

160.25 140.88

61.58 108.59

left shoulder L\_shoulder 1.0226071 -124.132576 1958.6523

right shoulder R\_shoulder -300.82733 -124.80331 2083.7302

301.84995

first angle mean: 137.9735

first angle stdev: 18.000422

second angle mean: 91.512

second angle stdev: 21.707767

156.75 129.85

66.27 111.43

left shoulder L\_shoulder 16.17555 -123.32619 1979.7961

right shoulder R\_shoulder -304.87378 -124.534836 2034.9869

321.04932

first angle mean: 138.0023

first angle stdev: 18.001616

second angle mean: 91.47328

second angle stdev: 21.713596

144.57 119.53

73.74 113.54

left shoulder L\_shoulder 21.76714 -122.229164 2009.8252

right shoulder R\_shoulder -303.29742 -122.60739 2024.2009

325.06458

first angle mean: 138.01236

first angle stdev: 17.989658

second angle mean: 91.44613

second angle stdev: 21.70804

134.0 105.66

86.45 113.2

left shoulder L\_shoulder 17.246662 -128.44858 2030.4625

right shoulder R\_shoulder -307.62866 -128.03185 2023.3414

324.87534

first angle mean: 138.00623

first angle stdev: 17.976585

second angle mean: 91.43849

second angle stdev: 21.692316

131.53 97.48

94.04 112.35

left shoulder L\_shoulder 11.377171 -133.65143 2023.2043

right shoulder R\_shoulder -312.92975 -133.32025 2006.4723

324.30692

first angle mean: 137.99634

first angle stdev: 17.964636

second angle mean: 91.44246

second angle stdev: 21.67599

128.41 106.86

100.02 96.37

left shoulder L\_shoulder 3.951415 -133.78943 1977.796

right shoulder R\_shoulder -316.01385 -128.26314 1939.1586

319.96527

first angle mean: 137.98174

first angle stdev: 17.954834

second angle mean: 91.45553

second angle stdev: 21.662045

127.87 122.81

101.04 84.93

left shoulder L\_shoulder -3.6033683 -134.7064 1946.499

right shoulder R\_shoulder -322.9228 -120.903534 1906.2269

319.31943

first angle mean: 137.96632

first angle stdev: 17.945494

second angle mean: 91.47012

second angle stdev: 21.648779

116.72 117.82

102.51 78.78

left shoulder L\_shoulder -4.8380647 -127.88338 1911.3787

right shoulder R\_shoulder -326.6431 -118.96743 1903.9064

321.80502

first angle mean: 137.93405

first angle stdev: 17.950943

second angle mean: 91.4869

second angle stdev: 21.636595

111.47 121.97

102.07 79.15

left shoulder L\_shoulder -0.056683626 -120.98087 1922.6813

right shoulder R\_shoulder -322.2931 -114.53513 1917.2208

322.23642

first angle mean: 137.89389

first angle stdev: 17.966871

second angle mean: 91.50296

second angle stdev: 21.624098

111.43 126.98

100.18 80.2

left shoulder L\_shoulder 11.980266 -118.68587 1935.5652

right shoulder R\_shoulder -312.42612 -118.41439 1940.059

324.40637

first angle mean: 137.85379

first angle stdev: 17.982737

second angle mean: 91.51611

second angle stdev: 21.610346

109.65 120.98

101.29 78.75

left shoulder L\_shoulder 13.734892 -118.634155 1897.8563

right shoulder R\_shoulder -307.87573 -128.35555 1935.6553

321.61063

first angle mean: 137.81113

first angle stdev: 18.002535

second angle mean: 91.5309

second angle stdev: 21.597334

104.99 82.49

98.46 89.14

left shoulder L\_shoulder 11.403486 -110.06286 1775.0599

right shoulder R\_shoulder -275.40842 -129.41037 1800.6627

286.8119

first angle mean: 137.76154

first angle stdev: 18.034035

second angle mean: 91.54137

second angle stdev: 21.582693

105.54 59.27

96.03 92.15

left shoulder L\_shoulder 13.032511 -112.40476 1695.6223

right shoulder R\_shoulder -257.51538 -120.25413 1693.36

270.54788

first angle mean: 137.71294

first angle stdev: 18.063763

second angle mean: 91.54813

second angle stdev: 21.567114

114.24 35.93

94.42 90.61

left shoulder L\_shoulder 16.382563 -108.89621 1627.273

right shoulder R\_shoulder -240.45758 -105.11821 1604.5243

256.84015

first angle mean: 137.6776

first angle stdev: 18.073092

second angle mean: 91.55246

second angle stdev: 21.551155

110.36 28.98

94.88 87.68

left shoulder L\_shoulder 15.63962 -111.04709 1661.9613

right shoulder R\_shoulder -241.05846 -104.75272 1632.8362

256.6981

first angle mean: 137.63652

first angle stdev: 18.090492

second angle mean: 91.55746

second angle stdev: 21.535332

107.36 35.58

96.44 81.57

left shoulder L\_shoulder 14.993146 -113.477844 1816.746

right shoulder R\_shoulder -253.53119 -115.71673 1789.4745

268.52432

first angle mean: 137.59105

first angle stdev: 18.11488

second angle mean: 91.56479

second angle stdev: 21.519989

104.77 120.96

98.57 70.09

left shoulder L\_shoulder 9.930879 -109.622406 1859.8727

right shoulder R\_shoulder -260.40717 -114.45083 1824.6947

270.33804

first angle mean: 137.54184

first angle stdev: 18.145784

second angle mean: 91.57529

second angle stdev: 21.505556

107.85 140.45

99.71 69.92

left shoulder L\_shoulder 3.9702506 -109.90015 1964.6973

right shoulder R\_shoulder -269.75357 -115.957085 1937.9327

273.72382

first angle mean: 137.49739

first angle stdev: 18.168499

second angle mean: 91.58747

second angle stdev: 21.491756

128.91 139.22

101.64 65.51

left shoulder L\_shoulder -4.5941024 -119.48458 2027.235

right shoulder R\_shoulder -276.25345 -122.22257 1982.5996

271.65933

first angle mean: 137.48456

first angle stdev: 18.157946

second angle mean: 91.60249

second angle stdev: 21.479198

136.76 142.47

109.3 60.58

left shoulder L\_shoulder -9.519695 -125.070946 2069.799

right shoulder R\_shoulder -273.2804 -128.23201 1990.7805

263.7607

first angle mean: 137.48346

first angle stdev: 18.144413

second angle mean: 91.628914

second angle stdev: 21.474035

137.83 145.91

109.72 57.54

left shoulder L\_shoulder -13.357214 -128.4039 2099.935

right shoulder R\_shoulder -260.28568 -131.72171 1977.7891

246.92847

first angle mean: 137.484

first angle stdev: 18.130892

second angle mean: 91.65587

second angle stdev: 21.469372

132.57 150.26

110.4 57.82

left shoulder L\_shoulder -29.317669 -128.41957 2148.414

right shoulder R\_shoulder -240.7915 -132.64453 1963.5046

211.47383

first angle mean: 137.47668

first angle stdev: 18.118385

second angle mean: 91.68377

second angle stdev: 21.465555

136.29 156.25

101.22 58.15

left shoulder L\_shoulder -48.094948 -127.09835 2179.3977

right shoulder R\_shoulder -212.84169 -129.37358 1929.1986

164.74673

first angle mean: 137.47493

first angle stdev: 18.104979

second angle mean: 91.69794

second angle stdev: 21.452747

142.7 162.99

100.47 58.44

left shoulder L\_shoulder -70.78809 -129.08319 2178.504

right shoulder R\_shoulder -190.19118 -123.90486 1893.498

119.40308

first angle mean: 137.48267

first angle stdev: 18.092659

second angle mean: 91.71095

second angle stdev: 21.439486

142.87 164.0

102.2 56.89

left shoulder L\_shoulder -87.352905 -138.19708 2172.8628

right shoulder R\_shoulder -173.21156 -123.91398 1869.0677

85.85866

first angle mean: 137.49066

first angle stdev: 18.08044

second angle mean: 91.726494

second angle stdev: 21.427397

137.86 161.27

105.85 55.47

left shoulder L\_shoulder -95.611855 -144.48601 2178.339

right shoulder R\_shoulder -161.58534 -126.45484 1864.7101

65.97349

first angle mean: 137.49121

first angle stdev: 18.067066

second angle mean: 91.74738

second angle stdev: 21.418423

131.53 156.48

106.63 52.64

left shoulder L\_shoulder -99.530785 -147.6086 2177.3933

right shoulder R\_shoulder -149.29915 -125.193924 1857.6147

49.768364

first angle mean: 137.4824

first angle stdev: 18.05517

second angle mean: 91.76936

second angle stdev: 21.410229

123.36 153.51

114.78 52.06

left shoulder L\_shoulder -100.634094 -148.04408 2173.502

right shoulder R\_shoulder -147.03694 -124.34481 1854.3916

46.402847

first angle mean: 137.46158

first angle stdev: 18.049988

second angle mean: 91.80331

second angle stdev: 21.41265

119.74 154.29

118.52 49.9

left shoulder L\_shoulder -98.821106 -148.59352 2160.8582

right shoulder R\_shoulder -151.68843 -121.68064 1848.2251

52.867325

first angle mean: 137.43547

first angle stdev: 18.04949

second angle mean: 91.84265

second angle stdev: 21.42139

121.48 154.33

116.98 50.57

left shoulder L\_shoulder -97.4907 -141.47783 2164.1033

right shoulder R\_shoulder -163.9778 -117.01367 1853.8759

66.4871

first angle mean: 137.412

first angle stdev: 18.046574

second angle mean: 91.879616

second angle stdev: 21.427298

129.08 154.82

112.5 51.45

left shoulder L\_shoulder -85.71059 -133.17946 2173.8108

right shoulder R\_shoulder -179.851 -114.465935 1869.2866

94.14041

first angle mean: 137.39977

first angle stdev: 18.036142

second angle mean: 91.9099

second angle stdev: 21.426111

133.26 153.42

110.6 50.66

left shoulder L\_shoulder -68.51936 -125.8261 2187.759

right shoulder R\_shoulder -199.91634 -117.53324 1895.0875

131.39697

first angle mean: 137.39369

first angle stdev: 18.023611

second angle mean: 91.9373

second angle stdev: 21.422338

137.6 151.84

110.77 50.39

left shoulder L\_shoulder -52.533096 -122.787476 2198.264

right shoulder R\_shoulder -217.02158 -123.46679 1922.3917

164.48848

first angle mean: 137.394

first angle stdev: 18.010412

second angle mean: 91.964874

second angle stdev: 21.418758

138.82 147.98

110.2 50.22

left shoulder L\_shoulder -43.37716 -120.16355 2191.4673

right shoulder R\_shoulder -239.76205 -125.59308 1935.7723

196.38489

first angle mean: 137.39609

first angle stdev: 17.997324

second angle mean: 91.99154

second angle stdev: 21.414433

140.08 144.09

107.9 47.68

left shoulder L\_shoulder -34.65601 -120.79914 2181.5422

right shoulder R\_shoulder -261.8214 -128.86841 1951.8376

227.1654

first angle mean: 137.4

first angle stdev: 17.984474

second angle mean: 92.014755

second angle stdev: 21.407413

141.35 141.67

111.82 49.36

left shoulder L\_shoulder -26.170057 -119.07125 2159.5085

right shoulder R\_shoulder -283.50864 -129.14218 1964.038

257.3386

first angle mean: 137.40576

first angle stdev: 17.971994

second angle mean: 92.04363

second angle stdev: 21.405146

148.44 140.56

109.12 53.09

left shoulder L\_shoulder -9.9781 -117.239975 2124.518

right shoulder R\_shoulder -298.0702 -128.62077 1978.0701

288.0921

first angle mean: 137.42181

first angle stdev: 17.963837

second angle mean: 92.06849

second angle stdev: 21.399467

150.4 141.74

109.11 57.52

left shoulder L\_shoulder 0.0078825 -115.91228 2093.7695

right shoulder R\_shoulder -307.2513 -125.427124 1993.2094

307.2592

first angle mean: 137.44067

first angle stdev: 17.957582

second angle mean: 92.093254

second angle stdev: 21.393764

140.99 141.89

111.16 63.23

left shoulder L\_shoulder 10.233686 -115.1194 2041.5887

right shoulder R\_shoulder -304.4146 -121.68755 1998.007

314.6483

first angle mean: 137.44583

first angle stdev: 17.945055

second angle mean: 92.120926

second angle stdev: 21.39055

131.47 140.89

112.43 68.81

left shoulder L\_shoulder 15.349075 -114.49494 2005.2612

right shoulder R\_shoulder -300.00095 -119.89779 1996.3046

315.35004

first angle mean: 137.43716

first angle stdev: 17.933489

second angle mean: 92.15036

second angle stdev: 21.389004

robot count: 7135.29

139.7

115.49 71.01

left shoulder L\_shoulder 21.840036 -120.88729 1943.8748

right shoulder R\_shoulder -291.73337 -124.24144 1979.7429

313.5734

first angle mean: 137.43407

first angle stdev: 17.920692

second angle mean: 92.18414

second angle stdev: 21.391928

145.21 140.67

112.07 74.38

left shoulder L\_shoulder 28.378098 -130.61406 1909.2538

right shoulder R\_shoulder -283.7716 -132.4882 1973.6526

312.14972

first angle mean: 137.4453

first angle stdev: 17.910175

second angle mean: 92.21288

second angle stdev: 21.389809

143.08 115.52

104.89 85.42

left shoulder L\_shoulder 29.674606 -132.74495 1924.2513

right shoulder R\_shoulder -284.20804 -137.79185 1979.4663

313.88263

first angle mean: 137.45345

first angle stdev: 17.898527

second angle mean: 92.23117

second angle stdev: 21.379787

145.31 94.34

97.61 94.19

left shoulder L\_shoulder 27.920664 -137.64095 1928.1178

right shoulder R\_shoulder -287.70953 -141.78989 1955.3248

315.6302

first angle mean: 137.46475

first angle stdev: 17.88811

second angle mean: 92.23892

second angle stdev: 21.365353

141.13 79.65

98.03 94.13

left shoulder L\_shoulder 18.877312 -135.15242 1909.7902

right shoulder R\_shoulder -285.43762 -142.5416 1922.9047

304.31494

first angle mean: 137.47003

first angle stdev: 17.875776

second angle mean: 92.24725

second angle stdev: 21.351105

125.8 85.2

101.89 91.12

left shoulder L\_shoulder 12.25789 -134.55865 1924.1545

right shoulder R\_shoulder -292.3334 -139.89949 1923.6512

304.5913

first angle mean: 137.45326

first angle stdev: 17.868397

second angle mean: 92.2611

second angle stdev: 21.338888

141.41 114.85

105.01 86.57

left shoulder L\_shoulder 7.4379444 -132.6279 1927.8907

right shoulder R\_shoulder -296.60638 -140.24663 1946.7593

304.04434

first angle mean: 137.45894

first angle stdev: 17.856203

second angle mean: 92.2794

second angle stdev: 21.329033

159.58 125.59

104.92 83.86

left shoulder L\_shoulder 5.2760243 -130.70274 1921.6587

right shoulder R\_shoulder -298.19705 -143.07285 1957.0591

303.47308

first angle mean: 137.49063

first angle stdev: 17.863014

second angle mean: 92.2975

second angle stdev: 21.31911

152.09 119.79

100.85 85.95

left shoulder L\_shoulder 9.506866 -122.103874 1875.5946

right shoulder R\_shoulder -292.21924 -140.2083 1904.3556

301.7261

first angle mean: 137.5115

first angle stdev: 17.858759

second angle mean: 92.30974

second angle stdev: 21.306307

135.07 104.89

100.53 87.26

left shoulder L\_shoulder 5.894989 -119.64954 1873.965

right shoulder R\_shoulder -295.41864 -134.68298 1908.6578

301.31363

first angle mean: 137.50804

first angle stdev: 17.846237

second angle mean: 92.32149

second angle stdev: 21.293346

129.36 102.17

101.52 88.44

left shoulder L\_shoulder 1.0036227 -123.2913 1895.7333

right shoulder R\_shoulder -299.6898 -136.53508 1936.0204

300.69342

first angle mean: 137.49641

first angle stdev: 17.836153

second angle mean: 92.33461

second angle stdev: 21.280985

114.3 114.31

96.57 93.58

left shoulder L\_shoulder 10.783003 -120.58894 1928.0808

right shoulder R\_shoulder -291.31708 -132.06856 1942.465

302.10007

first angle mean: 137.46336

first angle stdev: 17.844904

second angle mean: 92.340645

second angle stdev: 21.266422

112.61 120.23

85.24 99.53

left shoulder L\_shoulder 27.010014 -112.052086 1959.0203

right shoulder R\_shoulder -274.72128 -123.76337 1938.4312

301.7313

first angle mean: 137.42801

first angle stdev: 17.856792

second angle mean: 92.330536

second angle stdev: 21.252977

123.45 100.32

73.53 99.43

left shoulder L\_shoulder 39.03863 -101.59298 1965.8198

right shoulder R\_shoulder -256.45172 -118.36358 1930.2019

295.49036

first angle mean: 137.40816

first angle stdev: 17.85187

second angle mean: 92.30383

second angle stdev: 21.249678

127.13 121.36

62.78 108.52

left shoulder L\_shoulder 41.263756 -97.65338 1998.1295

right shoulder R\_shoulder -248.36305 -114.78409 1933.9609

289.6268

first angle mean: 137.39357

first angle stdev: 17.843397

second angle mean: 92.261955

second angle stdev: 21.263653

146.61 124.47

65.33 107.76

left shoulder L\_shoulder 40.860695 -99.872185 2004.5461

right shoulder R\_shoulder -250.92119 -119.95686 1977.0635

291.7819

first angle mean: 137.40663

first angle stdev: 17.834126

second angle mean: 92.22381

second angle stdev: 21.272715

156.93 133.47

63.48 106.03

left shoulder L\_shoulder 31.092524 -101.586784 1993.9075

right shoulder R\_shoulder -257.80453 -124.28475 2022.367

288.89706

first angle mean: 137.43425

first angle stdev: 17.836605

second angle mean: 92.18316

second angle stdev: 21.285097

161.82 139.17

65.24 103.36

left shoulder L\_shoulder 3.4414678 -107.74529 1964.6208

right shoulder R\_shoulder -257.21857 -127.47519 2092.5051

260.66003

first angle mean: 137.46869

first angle stdev: 17.847517

second angle mean: 92.145096

second angle stdev: 21.294113

163.57 132.07

60.82 105.01

left shoulder L\_shoulder -44.09075 -118.91874 1930.0886

right shoulder R\_shoulder -247.10371 -131.81213 2137.8147

203.01297

first angle mean: 137.50551

first angle stdev: 17.861807

second angle mean: 92.100914

second angle stdev: 21.31154

163.18 129.26

60.4 104.38

left shoulder L\_shoulder -72.7446 -113.50818 1884.8264

right shoulder R\_shoulder -241.84459 -132.13757 2124.8901

169.09999

first angle mean: 137.54166

first angle stdev: 17.875175

second angle mean: 92.056274

second angle stdev: 21.329687

161.42 128.61

58.05 105.27

left shoulder L\_shoulder -105.10278 -106.43954 1865.5548

right shoulder R\_shoulder -239.14255 -129.82854 2145.1875

134.03976

first angle mean: 137.57524

first angle stdev: 17.885002

second angle mean: 92.00844

second angle stdev: 21.352747

counter:8

TRAINING: Exercise raise\_arms\_forward\_turn\_ball done

C:\Users\yaels\יעל פרוייקט גמר\zedcheck\Excel.py:287: UserWarning: Starting a Matplotlib GUI outside of the main thread will likely fail.

plt.plot(plot\_data['x'], plot\_data['y'])

Directory created or already exists: Patients/1111/Graphs/raise\_arms\_forward\_turn\_ball/28-06-2024 15-24-54