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ECE 4310
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Lab 6 Report

Below are the outputs of the lab6 code. Accelerometer data is in meters and gyro data is in degrees.

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accelerometer_movement.txt

Accelerometer Data

Start time: 0.75      End time: 2.45 Indices: 14 through 48 Linear Distance: X - 0.023264 Y - 0.049210 Z - 76.909828
Start time: 5.50      End time: 7.10 Indices: 109 through 141 Linear Distance: X - 0.001392 Y - 0.132536 Z - 64.148483
Start time: 10.35     End time: 10.70 Indices: 206 through 213 Linear Distance: X - 0.000025 Y - 0.000003 Z - 0.661076
Start time: 10.75     End time: 11.90 Indices: 214 through 237 Linear Distance: X - 0.023774 Y - 0.001683 Z - 23.677931
Start time: 14.35     End time: 15.65 Indices: 286 through 312 Linear Distance: X - 0.055565 Y - 0.000140 Z - 34.301235
Start time: 15.70     End time: 16.45 Indices: 313 through 328 Linear Distance: X - 0.003623 Y - -0.000000 Z - 6.574971
Start time: 18.95     End time: 20.35 Indices: 378 through 406 Linear Distance: X - 0.078693 Y - 0.005012 Z - 46.988300
Start time: 22.45     End time: 24.35 Indices: 448 through 486 Linear Distance: X - 2.905946 Y - 0.752730 Z - 99.093758
Start time: 31.20     End time: 33.15 Indices: 623 through 662 Linear Distance: X - 0.007591 Y - 0.003544 Z - 116.091492
Start time: 37.25     End time: 38.15 Indices: 744 through 762 Linear Distance: X - 0.005931 Y - 0.001964 Z - 11.525572
Start time: 38.20     End time: 38.25 Indices: 763 through 764 Linear Distance: X - 0.000000 Y - 0.000000 Z - 0.000000
Start time: 42.80     End time: 44.45 Indices: 855 through 888 Linear Distance: X - 0.212333 Y - 11.371440 Z - 44.332283
Start time: 47.90     End time: 49.55 Indices: 957 through 990 Linear Distance: X - 0.118492 Y - 53.047028 Z - 6.698342
Start time: 53.00     End time: 54.30 Indices: 1059 through 1085 Linear Distance: X - 3.551782 Y - 0.000250 Z - 26.575428
Start time: 58.00     End time: 59.75 Indices: 1159 through 1194 Linear Distance: X - 62.653896 Y - 0.000226 Z - 7.739117

gyro_movement.txt

Gyro Data

Start time: 1.00      End time: 2.25 Indices: 19 through 44 Angular Rotations: Pitch - -0.891897 Roll - -0.070565 Yaw - -1.947129
Start time: 5.70      End time: 7.10 Indices: 113 through 141 Angular Rotations: Pitch - 0.087163 Roll - -0.890655 Yaw - 2.326011
Start time: 10.85     End time: 11.70 Indices: 216 through 233 Angular Rotations: Pitch - -0.117808 Roll - -0.651219 Yaw - -1.323144
Start time: 14.60     End time: 14.90 Indices: 291 through 297 Angular Rotations: Pitch - 0.231466 Roll - 0.194218 Yaw - -0.772561
Start time: 15.05     End time: 15.50 Indices: 300 through 309 Angular Rotations: Pitch - -0.283454 Roll - -0.024591 Yaw - 2.517303
Start time: 19.15     End time: 20.25 Indices: 382 through 404 Angular Rotations: Pitch - 8.244146 Roll - 6.761027 Yaw - -3.182473
Start time: 22.60     End time: 24.45 Indices: 451 through 488 Angular Rotations: Pitch - -10.149771 Roll - -8.112433 Yaw - 2.883582
Start time: 31.05     End time: 33.35 Indices: 620 through 666 Angular Rotations: Pitch - 2.683342 Roll - -0.203964 Yaw - 88.998833
Start time: 37.10     End time: 38.80 Indices: 741 through 775 Angular Rotations: Pitch - -0.110399 Roll - -0.611722 Yaw - -87.474747
Start time: 42.70     End time: 44.60 Indices: 853 through 891 Angular Rotations: Pitch - 92.254135 Roll - -5.181520 Yaw - -3.804113
Start time: 47.80     End time: 49.65 Indices: 955 through 992 Angular Rotations: Pitch - -89.282158 Roll - 1.170890 Yaw - 3.980965
Start time: 52.90     End time: 54.40 Indices: 1057 through 1087 Angular Rotations: Pitch - -0.302944 Roll - 97.510506 Yaw - -4.210473
Start time: 57.90     End time: 59.75 Indices: 1157 through 1194 Angular Rotations: Pitch - -2.220811 Roll - -91.883942 Yaw - 2.552216
```