

## M11\_L2\_RomilShah

Romil Shah

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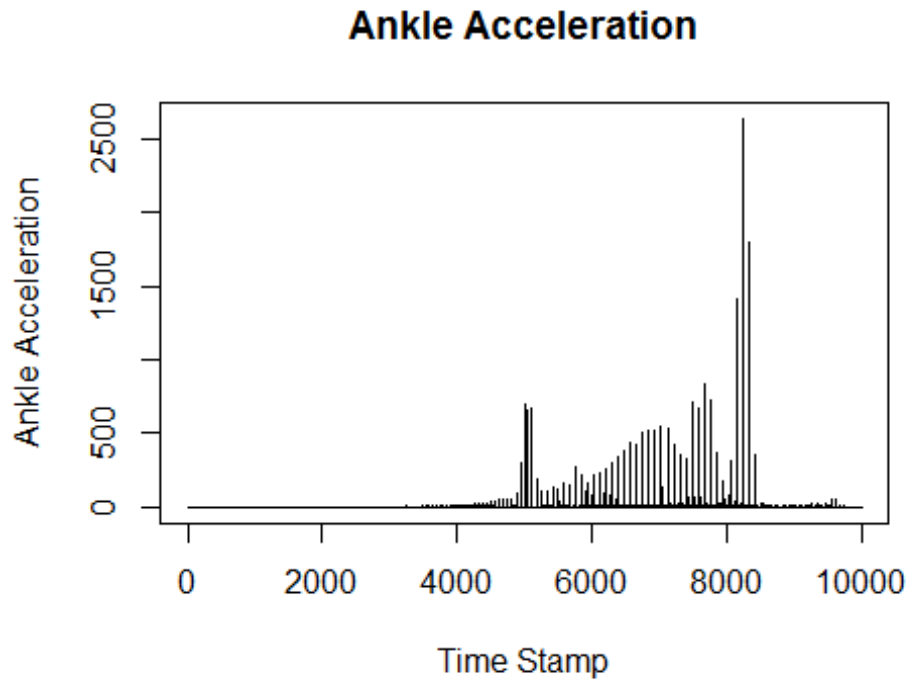
```
library(RCurl)
## Loading required package: bitops
library(plyr)
## Warning: package 'plyr' was built under R version 3.2.5
library(forecast)
## Warning: package 'forecast' was built under R version 3.2.5
## Loading required package: zoo
## Warning: package 'zoo' was built under R version 3.2.5
##
## Attaching package: 'zoo'
##
## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric
## Loading required package: timeDate
## This is forecast 7.1
#Link to the dataset:
https://archive.ics.uci.edu/ml/datasets/Daphnet+Freezing+of+Gait
#This dataset is for Parkinsons patients giving the gait data.

data <- read.table("C:/Users/rams1/Desktop/DSCS6030/S01R01.txt")
names(data) <-
c("time", "ankle1", "ankle2", "ankle3", "u11", "u12", "u13", "ta1", "ta2", "ta3", "labels")

#This data consists of the ankle acceleration, upper leg acceleration and trunk acceleration with different subjects who are either healthy or have parkinsons disease. This is a time series data which I am using in my project. Here I am using the information of a parkinsons patient where the ankle data will be used to analyse using ARIMA models.

ankles <- count(data, c("ankle1", "ankle2"))
```

```
#Taking first 10000 values for consideration with frequency 2
ankles_timeseries <- ts(ankles$freq,start = c(1, 1), end = c(10000, 1),
frequency = 2)
plot(ankles_timeseries, xlab='Time Stamp' ,ylab='Ankle Acceleration',
main='Ankle Acceleration')
```



```
d <- 0 : 2
p <- 0 : 4
q <- 0 : 6
ankles_models <- expand.grid(d = d, p = p, q = q)
head(ankles_models, n = 4)

##    d p q
## 1 0 0 0
## 2 1 0 0
## 3 2 0 0
## 4 0 1 0

getTSModelAIC <- function(ts_data, p, d, q) {
  ts_model <- arima(ts_data, order
= c(p, d, q))
  return(ts_model$aic)
}

getTSModelAICSafe <- function(ts_data, p, d, q) {
  result = tryCatch({
    getTSModelAIC(ts_data, p, d,
```

```

q)
                                }, error = function(e) {
                                Inf
                                })
}

ankles_models$aic <- mapply(function(x, y, z)
  getTSModelAICSafe(ankles_timeseries,x, y,
z),ankles_models$p,ankles_models$d,ankles_models$q)

subset(ankles_models,aic == min(aic))

##      d p q      aic
## 95 1 1 6 174078.9

ankles_model <- arima(ankles_timeseries, order = c(1, 1, 1))
summary(ankles_model)

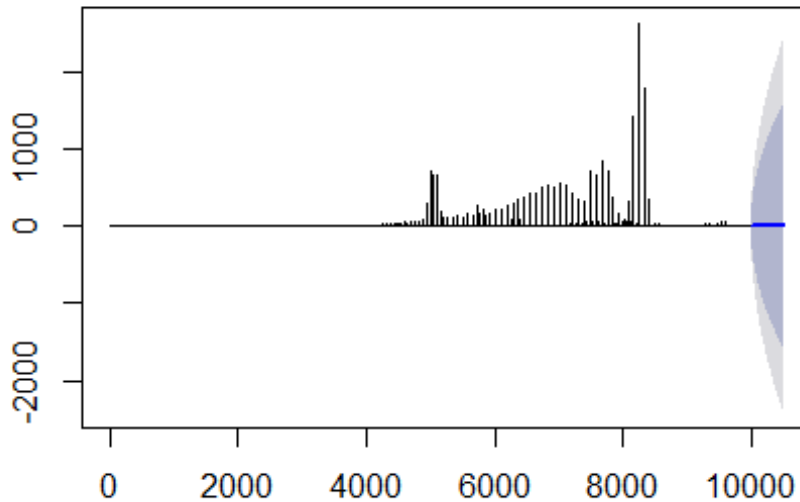
##
## Call:
## arima(x = ankles_timeseries, order = c(1, 1, 1))
##
## Coefficients:
##          ar1      ma1
##      0.0667  0.7438
## s.e.  0.0085  0.0051
##
## sigma^2 estimated as 431.6:  log likelihood = -89045.22,  aic = 178096.5
##
## Training set error measures:
##              ME      RMSE      MAE      MPE      MAPE      MASE
## Training set 1.10955e-05 20.77438 4.292803 -21.07958 124.2438 1.357487
##              ACF1
## Training set 0.01253783

predictedData <- forecast(ankles_model,1000)

#Thus the future predicted 1000 values can be shown as:
plot(forecast(ankles_model, 1000))

```

## Forecasts from ARIMA(1,1,1)



*#Looking at the plots of the predicted data and the actual data, it seems to be coinciding. Thus the arima models provides a best fit for the time series analysis for the dataset used by me.*

*#Thus ARIMA can be used for prediction based on the model generated using the test dataset.*

*#The model parameters are as follows:*

predictedData

##	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
## 10000.5	1.399313	-25.22479	28.02341	-39.31873	42.11736
## 10001.0	1.425943	-53.63981	56.49169	-82.78985	85.64174
## 10001.5	1.427719	-72.71018	75.56562	-111.95641	114.81185
## 10002.0	1.427838	-87.84789	90.70357	-135.10761	137.96328
## 10002.5	1.427846	-100.77059	103.62628	-154.87118	157.72687
## 10003.0	1.427846	-112.23361	115.08931	-172.40236	175.25805
## 10003.5	1.427846	-122.64204	125.49774	-188.32068	191.17637
## 10004.0	1.427846	-132.24245	135.09814	-203.00323	205.85892
## 10004.5	1.427846	-141.19809	144.05378	-216.69970	219.55539
## 10005.0	1.427846	-149.62370	152.47939	-229.58555	232.44124
## 10005.5	1.427846	-157.60353	160.45922	-241.78966	244.64535
## 10006.0	1.427846	-165.20165	168.05734	-253.40998	256.26567
## 10006.5	1.427846	-172.46810	175.32379	-264.52305	267.37874
## 10007.0	1.427846	-179.44285	182.29854	-275.19002	278.04571
## 10007.5	1.427846	-186.15845	189.01415	-285.46064	288.31633
## 10008.0	1.427846	-192.64181	195.49750	-295.37607	298.23177
## 10008.5	1.427846	-198.91546	201.77115	-304.97080	307.82649
## 10009.0	1.427846	-204.99853	207.85423	-314.27406	317.12975

## 10009.5	1.427846	-210.90741	213.76310	-323.31090	326.16660
## 10010.0	1.427846	-216.65624	219.51194	-332.10299	334.95868
## 10010.5	1.427846	-222.25738	225.11307	-340.66919	343.52488
## 10011.0	1.427846	-227.72165	230.57734	-349.02606	351.88176
## 10011.5	1.427846	-233.05862	235.91431	-357.18825	360.04394
## 10012.0	1.427846	-238.27679	241.13248	-365.16876	368.02445
## 10012.5	1.427846	-243.38376	246.23945	-372.97919	375.83489
## 10013.0	1.427846	-248.38635	251.24204	-380.63000	383.48569
## 10013.5	1.427846	-253.29071	256.14640	-388.13057	390.98626
## 10014.0	1.427846	-258.10241	260.95810	-395.48942	398.34512
## 10014.5	1.427846	-262.82651	265.68220	-402.71431	405.57000
## 10015.0	1.427846	-267.46762	270.32331	-409.81229	412.66798
## 10015.5	1.427846	-272.02998	274.88567	-416.78981	419.64550
## 10016.0	1.427846	-276.51746	279.37315	-423.65282	426.50851
## 10016.5	1.427846	-280.93363	283.78932	-430.40677	433.26246
## 10017.0	1.427846	-285.28179	288.13748	-437.05670	439.91239
## 10017.5	1.427846	-289.56498	292.42067	-443.60728	446.46297
## 10018.0	1.427846	-293.78603	296.64173	-450.06282	452.91851
## 10018.5	1.427846	-297.94758	300.80327	-456.42735	459.28305
## 10019.0	1.427846	-302.05206	304.90775	-462.70462	465.56031
## 10019.5	1.427846	-306.10177	308.95746	-468.89812	471.75381
## 10020.0	1.427846	-310.09884	312.95453	-475.01110	477.86680
## 10020.5	1.427846	-314.04527	316.90096	-481.04665	483.90234
## 10021.0	1.427846	-317.94294	320.79863	-487.00761	489.86331
## 10021.5	1.427846	-321.79360	324.64930	-492.89670	495.75240
## 10022.0	1.427846	-325.59894	328.45463	-498.71646	501.57215
## 10022.5	1.427846	-329.36049	332.21619	-504.46927	507.32496
## 10023.0	1.427846	-333.07976	335.93545	-510.15739	513.01308
## 10023.5	1.427846	-336.75812	339.61381	-515.78296	518.63865
## 10024.0	1.427846	-340.39690	343.25259	-521.34799	524.20368
## 10024.5	1.427846	-343.99735	346.85304	-526.85441	529.71010
## 10025.0	1.427846	-347.56066	350.41635	-532.30402	535.15971
## 10025.5	1.427846	-351.08795	353.94364	-537.69854	540.55424
## 10026.0	1.427846	-354.58030	357.43599	-543.03962	545.89532
## 10026.5	1.427846	-358.03871	360.89441	-548.32882	551.18451
## 10027.0	1.427846	-361.46417	364.31987	-553.56761	556.42330
## 10027.5	1.427846	-364.85760	367.71329	-558.75740	561.61310
## 10028.0	1.427846	-368.21988	371.07557	-563.89956	566.75525
## 10028.5	1.427846	-371.55184	374.40754	-568.99537	571.85106
## 10029.0	1.427846	-374.85431	377.71000	-574.04605	576.90174
## 10029.5	1.427846	-378.12804	380.98373	-579.05279	581.90848
## 10030.0	1.427846	-381.37377	384.22947	-584.01671	586.87240
## 10030.5	1.427846	-384.59222	387.44791	-588.93890	591.79459
## 10031.0	1.427846	-387.78405	390.63974	-593.82038	596.67608
## 10031.5	1.427846	-390.94992	393.80561	-598.66216	601.51785
## 10032.0	1.427846	-394.09045	396.94614	-603.46519	606.32088
## 10032.5	1.427846	-397.20624	400.06193	-608.23037	611.08606
## 10033.0	1.427846	-400.29786	403.15355	-612.95860	615.81429
## 10033.5	1.427846	-403.36587	406.22156	-617.65072	620.50641
## 10034.0	1.427846	-406.41080	409.26649	-622.30754	625.16323

## 10034.5	1.427846	-409.43317	412.28886	-626.92985	629.78554
## 10035.0	1.427846	-412.43346	415.28915	-631.51840	634.37410
## 10035.5	1.427846	-415.41216	418.26785	-636.07393	638.92963
## 10036.0	1.427846	-418.36973	421.22542	-640.59714	643.45283
## 10036.5	1.427846	-421.30660	424.16229	-645.08870	647.94439
## 10037.0	1.427846	-424.22321	427.07890	-649.54927	652.40496
## 10037.5	1.427846	-427.11997	429.97567	-653.97949	656.83518
## 10038.0	1.427846	-429.99729	432.85298	-658.37995	661.23565
## 10038.5	1.427846	-432.85553	435.71123	-662.75127	665.60696
## 10039.0	1.427846	-435.69509	438.55079	-667.09400	669.94969
## 10039.5	1.427846	-438.51633	441.37202	-671.40870	674.26440
## 10040.0	1.427846	-441.31958	444.17527	-675.69591	678.55160
## 10040.5	1.427846	-444.10520	446.96089	-679.95615	682.81184
## 10041.0	1.427846	-446.87351	449.72920	-684.18991	687.04560
## 10041.5	1.427846	-449.62483	452.48052	-688.39769	691.25338
## 10042.0	1.427846	-452.35947	455.21516	-692.57996	695.43565
## 10042.5	1.427846	-455.07772	457.93342	-696.73718	699.59287
## 10043.0	1.427846	-457.77989	460.63558	-700.86978	703.72548
## 10043.5	1.427846	-460.46625	463.32194	-704.97822	707.83391
## 10044.0	1.427846	-463.13708	465.99277	-709.06289	711.91858
## 10044.5	1.427846	-465.79263	468.64833	-713.12422	715.97991
## 10045.0	1.427846	-468.43318	471.28888	-717.16259	720.01828
## 10045.5	1.427846	-471.05898	473.91467	-721.17839	724.03408
## 10046.0	1.427846	-473.67026	476.52595	-725.17200	728.02769
## 10046.5	1.427846	-476.26726	479.12296	-729.14378	731.99947
## 10047.0	1.427846	-478.85023	481.70592	-733.09408	735.94977
## 10047.5	1.427846	-481.41937	484.27507	-737.02325	739.87895
## 10048.0	1.427846	-483.97492	486.83062	-740.93163	743.78732
## 10048.5	1.427846	-486.51709	489.37278	-744.81953	747.67523
## 10049.0	1.427846	-489.04608	491.90177	-748.68729	751.54298
## 10049.5	1.427846	-491.56209	494.41778	-752.53520	755.39089
## 10050.0	1.427846	-494.06533	496.92102	-756.36358	759.21927
## 10050.5	1.427846	-496.55599	499.41168	-760.17271	763.02840
## 10051.0	1.427846	-499.03425	501.88994	-763.96288	766.81857
## 10051.5	1.427846	-501.50030	504.35599	-767.73438	770.59007
## 10052.0	1.427846	-503.95432	506.81001	-771.48747	774.34317
## 10052.5	1.427846	-506.39647	509.25217	-775.22243	778.07812
## 10053.0	1.427846	-508.82694	511.68264	-778.93951	781.79521
## 10053.5	1.427846	-511.24589	514.10158	-782.63897	785.49467
## 10054.0	1.427846	-513.65348	516.50917	-786.32106	789.17675
## 10054.5	1.427846	-516.04987	518.90556	-789.98602	792.84171
## 10055.0	1.427846	-518.43521	521.29090	-793.63408	796.48977
## 10055.5	1.427846	-520.80965	523.66534	-797.26548	800.12117
## 10056.0	1.427846	-523.17335	526.02904	-800.88044	803.73614
## 10056.5	1.427846	-525.52644	528.38214	-804.47919	807.33489
## 10057.0	1.427846	-527.86908	530.72477	-808.06194	810.91764
## 10057.5	1.427846	-530.20139	533.05708	-811.62891	814.48460
## 10058.0	1.427846	-532.52351	535.37920	-815.18029	818.03598
## 10058.5	1.427846	-534.83558	537.69127	-818.71629	821.57198
## 10059.0	1.427846	-537.13772	539.99342	-822.23712	825.09281

## 10059.5	1.427846	-539.43007	542.28576	-825.74295	828.59865
## 10060.0	1.427846	-541.71274	544.56843	-829.23400	832.08969
## 10060.5	1.427846	-543.98585	546.84155	-832.71043	835.56612
## 10061.0	1.427846	-546.24954	549.10523	-836.17243	839.02812
## 10061.5	1.427846	-548.50390	551.35959	-839.62018	842.47587
## 10062.0	1.427846	-550.74906	553.60475	-843.05386	845.90955
## 10062.5	1.427846	-552.98513	555.84082	-846.47363	849.32932
## 10063.0	1.427846	-555.21221	558.06791	-849.87966	852.73535
## 10063.5	1.427846	-557.43042	560.28612	-853.27212	856.12781
## 10064.0	1.427846	-559.63986	562.49556	-856.65117	859.50686
## 10064.5	1.427846	-561.84064	564.69633	-860.01696	862.87266
## 10065.0	1.427846	-564.03285	566.88854	-863.36966	866.22535
## 10065.5	1.427846	-566.21659	569.07228	-866.70940	869.56510
## 10066.0	1.427846	-568.39196	571.24766	-870.03635	872.89204
## 10066.5	1.427846	-570.55907	573.41476	-873.35065	876.20634
## 10067.0	1.427846	-572.71799	575.57368	-876.65243	879.50812
## 10067.5	1.427846	-574.86882	577.72451	-879.94185	882.79754
## 10068.0	1.427846	-577.01166	579.86735	-883.21903	886.07472
## 10068.5	1.427846	-579.14658	582.00228	-886.48412	889.33981
## 10069.0	1.427846	-581.27369	584.12938	-889.73725	892.59294
## 10069.5	1.427846	-583.39306	586.24875	-892.97854	895.83424
## 10070.0	1.427846	-585.50477	588.36047	-896.20813	899.06383
## 10070.5	1.427846	-587.60892	590.46461	-899.42615	902.28184
## 10071.0	1.427846	-589.70557	592.56127	-902.63270	905.48840
## 10071.5	1.427846	-591.79482	594.65051	-905.82793	908.68362
## 10072.0	1.427846	-593.87673	596.73242	-909.01194	911.86763
## 10072.5	1.427846	-595.95139	598.80708	-912.18485	915.04055
## 10073.0	1.427846	-598.01887	600.87456	-915.34679	918.20248
## 10073.5	1.427846	-600.07924	602.93493	-918.49785	921.35354
## 10074.0	1.427846	-602.13257	604.98827	-921.63816	924.49385
## 10074.5	1.427846	-604.17895	607.03464	-924.76782	927.62351
## 10075.0	1.427846	-606.21843	609.07413	-927.88694	930.74264
## 10075.5	1.427846	-608.25110	611.10679	-930.99563	933.85132
## 10076.0	1.427846	-610.27700	613.13269	-934.09399	936.94968
## 10076.5	1.427846	-612.29622	615.15191	-937.18212	940.03781
## 10077.0	1.427846	-614.30882	617.16451	-940.26012	943.11581
## 10077.5	1.427846	-616.31486	619.17055	-943.32810	946.18379
## 10078.0	1.427846	-618.31441	621.17010	-946.38614	949.24183
## 10078.5	1.427846	-620.30753	623.16322	-949.43435	952.29004
## 10079.0	1.427846	-622.29427	625.14997	-952.47282	955.32851
## 10079.5	1.427846	-624.27471	627.13041	-955.50164	958.35733
## 10080.0	1.427846	-626.24890	629.10460	-958.52091	961.37660
## 10080.5	1.427846	-628.21691	631.07260	-961.53070	964.38640
## 10081.0	1.427846	-630.17878	633.03447	-964.53112	967.38682
## 10081.5	1.427846	-632.13457	634.99026	-967.52225	970.37795
## 10082.0	1.427846	-634.08434	636.94004	-970.50418	973.35987
## 10082.5	1.427846	-636.02816	638.88385	-973.47698	976.33267
## 10083.0	1.427846	-637.96606	640.82175	-976.44075	979.29644
## 10083.5	1.427846	-639.89810	642.75380	-979.39556	982.25125
## 10084.0	1.427846	-641.82435	644.68004	-982.34149	985.19718

## 10084.5	1.427846	-643.74484	646.60053	-985.27863	988.13432
## 10085.0	1.427846	-645.65963	648.51533	-988.20705	991.06275
## 10085.5	1.427846	-647.56878	650.42447	-991.12684	993.98253
## 10086.0	1.427846	-649.47232	652.32801	-994.03805	996.89375
## 10086.5	1.427846	-651.37031	654.22601	-996.94078	999.79648
## 10087.0	1.427846	-653.26280	656.11850	-999.83510	1002.69079
## 10087.5	1.427846	-655.14984	658.00553	-1002.72107	1005.57676
## 10088.0	1.427846	-657.03147	659.88716	-1005.59877	1008.45447
## 10088.5	1.427846	-658.90773	661.76343	-1008.46827	1011.32397
## 10089.0	1.427846	-660.77868	663.63438	-1011.32965	1014.18534
## 10089.5	1.427846	-662.64436	665.50005	-1014.18295	1017.03865
## 10090.0	1.427846	-664.50481	667.36051	-1017.02827	1019.88396
## 10090.5	1.427846	-666.36008	669.21578	-1019.86566	1022.72135
## 10091.0	1.427846	-668.21021	671.06590	-1022.69519	1025.55088
## 10091.5	1.427846	-670.05524	672.91094	-1025.51692	1028.37261
## 10092.0	1.427846	-671.89522	674.75091	-1028.33092	1031.18661
## 10092.5	1.427846	-673.73018	676.58587	-1031.13725	1033.99294
## 10093.0	1.427846	-675.56017	678.41586	-1033.93597	1036.79167
## 10093.5	1.427846	-677.38522	680.24091	-1036.72715	1039.58285
## 10094.0	1.427846	-679.20538	682.06107	-1039.51085	1042.36654
## 10094.5	1.427846	-681.02069	683.87638	-1042.28712	1045.14281
## 10095.0	1.427846	-682.83118	685.68687	-1045.05602	1047.91172
## 10095.5	1.427846	-684.63689	687.49258	-1047.81762	1050.67331
## 10096.0	1.427846	-686.43786	689.29355	-1050.57197	1053.42766
## 10096.5	1.427846	-688.23413	691.08982	-1053.31913	1056.17482
## 10097.0	1.427846	-690.02573	692.88143	-1056.05915	1058.91484
## 10097.5	1.427846	-691.81271	694.66840	-1058.79209	1061.64778
## 10098.0	1.427846	-693.59508	696.45078	-1061.51800	1064.37369
## 10098.5	1.427846	-695.37290	698.22859	-1064.23694	1067.09263
## 10099.0	1.427846	-697.14620	700.00189	-1066.94896	1069.80465
## 10099.5	1.427846	-698.91500	701.77069	-1069.65411	1072.50980
## 10100.0	1.427846	-700.67935	703.53504	-1072.35245	1075.20814
## 10100.5	1.427846	-702.43927	705.29497	-1075.04402	1077.89971
## 10101.0	1.427846	-704.19481	707.05050	-1077.72888	1080.58457
## 10101.5	1.427846	-705.94599	708.80168	-1080.40708	1083.26277
## 10102.0	1.427846	-707.69284	710.54854	-1083.07866	1085.93436
## 10102.5	1.427846	-709.43541	712.29110	-1085.74368	1088.59937
## 10103.0	1.427846	-711.17371	714.02940	-1088.40218	1091.25788
## 10103.5	1.427846	-712.90778	715.76347	-1091.05422	1093.90991
## 10104.0	1.427846	-714.63765	717.49334	-1093.69983	1096.55552
## 10104.5	1.427846	-716.36335	719.21905	-1096.33906	1099.19475
## 10105.0	1.427846	-718.08492	720.94061	-1098.97197	1101.82766
## 10105.5	1.427846	-719.80237	722.65806	-1101.59859	1104.45428
## 10106.0	1.427846	-721.51575	724.37144	-1104.21896	1107.07466
## 10106.5	1.427846	-723.22507	726.08076	-1106.83315	1109.68884
## 10107.0	1.427846	-724.93037	727.78606	-1109.44118	1112.29687
## 10107.5	1.427846	-726.63168	729.48737	-1112.04311	1114.89880
## 10108.0	1.427846	-728.32902	731.18471	-1114.63896	1117.49466
## 10108.5	1.427846	-730.02242	732.87811	-1117.22880	1120.08449
## 10109.0	1.427846	-731.71191	734.56760	-1119.81265	1122.66834



## 10109.5	1.427846	-733.39751	736.25320	-1122.39056	1125.24625
## 10110.0	1.427846	-735.07926	737.93495	-1124.96257	1127.81826
## 10110.5	1.427846	-736.75718	739.61287	-1127.52872	1130.38442
## 10111.0	1.427846	-738.43129	741.28698	-1130.08906	1132.94475
## 10111.5	1.427846	-740.10162	742.95731	-1132.64361	1135.49930
## 10112.0	1.427846	-741.76820	744.62389	-1135.19242	1138.04811
## 10112.5	1.427846	-743.43105	746.28674	-1137.73553	1140.59122
## 10113.0	1.427846	-745.09019	747.94588	-1140.27297	1143.12866
## 10113.5	1.427846	-746.74566	749.60135	-1142.80478	1145.66048
## 10114.0	1.427846	-748.39747	751.25316	-1145.33101	1148.18670
## 10114.5	1.427846	-750.04565	752.90134	-1147.85168	1150.70738
## 10115.0	1.427846	-751.69022	754.54591	-1150.36684	1153.22253
## 10115.5	1.427846	-753.33121	756.18690	-1152.87652	1155.73221
## 10116.0	1.427846	-754.96864	757.82433	-1155.38075	1158.23644
## 10116.5	1.427846	-756.60253	759.45822	-1157.87957	1160.73526
## 10117.0	1.427846	-758.23291	761.08860	-1160.37302	1163.22871
## 10117.5	1.427846	-759.85979	762.71549	-1162.86113	1165.71682
## 10118.0	1.427846	-761.48321	764.33890	-1165.34393	1168.19962
## 10118.5	1.427846	-763.10318	765.95887	-1167.82146	1170.67715
## 10119.0	1.427846	-764.71973	767.57542	-1170.29375	1173.14944
## 10119.5	1.427846	-766.33287	769.18856	-1172.76084	1175.61653
## 10120.0	1.427846	-767.94263	770.79832	-1175.22275	1178.07844
## 10120.5	1.427846	-769.54902	772.40472	-1177.67952	1180.53522
## 10121.0	1.427846	-771.15208	774.00777	-1180.13119	1182.98688
## 10121.5	1.427846	-772.75182	775.60751	-1182.57778	1185.43347
## 10122.0	1.427846	-774.34826	777.20395	-1185.01932	1187.87501
## 10122.5	1.427846	-775.94142	778.79711	-1187.45585	1190.31154
## 10123.0	1.427846	-777.53132	780.38701	-1189.88740	1192.74309
## 10123.5	1.427846	-779.11798	781.97368	-1192.31399	1195.16968
## 10124.0	1.427846	-780.70143	783.55712	-1194.73566	1197.59135
## 10124.5	1.427846	-782.28168	785.13737	-1197.15244	1200.00813
## 10125.0	1.427846	-783.85874	786.71443	-1199.56435	1202.42004
## 10125.5	1.427846	-785.43265	788.28834	-1201.97143	1204.82712
## 10126.0	1.427846	-787.00341	789.85910	-1204.37371	1207.22940
## 10126.5	1.427846	-788.57105	791.42674	-1206.77120	1209.62690
## 10127.0	1.427846	-790.13559	792.99128	-1209.16395	1212.01965
## 10127.5	1.427846	-791.69703	794.55273	-1211.55198	1214.40768
## 10128.0	1.427846	-793.25542	796.11111	-1213.93532	1216.79102
## 10128.5	1.427846	-794.81075	797.66644	-1216.31400	1219.16969
## 10129.0	1.427846	-796.36305	799.21874	-1218.68803	1221.54373
## 10129.5	1.427846	-797.91233	800.76802	-1221.05746	1223.91315
## 10130.0	1.427846	-799.45862	802.31431	-1223.42230	1226.27799
## 10130.5	1.427846	-801.00193	803.85762	-1225.78259	1228.63828
## 10131.0	1.427846	-802.54227	805.39796	-1228.13834	1230.99403
## 10131.5	1.427846	-804.07967	806.93536	-1230.48959	1233.34528
## 10132.0	1.427846	-805.61414	808.46983	-1232.83636	1235.69205
## 10132.5	1.427846	-807.14570	810.00139	-1235.17868	1238.03437
## 10133.0	1.427846	-808.67436	811.53006	-1237.51657	1240.37226
## 10133.5	1.427846	-810.20015	813.05584	-1239.85005	1242.70575
## 10134.0	1.427846	-811.72307	814.57876	-1242.17916	1245.03485

## 10134.5	1.427846	-813.24314	816.09883	-1244.50391	1247.35961
## 10135.0	1.427846	-814.76039	817.61608	-1246.82434	1249.68003
## 10135.5	1.427846	-816.27481	819.13051	-1249.14045	1251.99615
## 10136.0	1.427846	-817.78644	820.64213	-1251.45229	1254.30798
## 10136.5	1.427846	-819.29529	822.15098	-1253.75987	1256.61556
## 10137.0	1.427846	-820.80136	823.65705	-1256.06321	1258.91891
## 10137.5	1.427846	-822.30468	825.16038	-1258.36235	1261.21804
## 10138.0	1.427846	-823.80527	826.66096	-1260.65729	1263.51298
## 10138.5	1.427846	-825.30313	828.15882	-1262.94807	1265.80376
## 10139.0	1.427846	-826.79828	829.65397	-1265.23470	1268.09040
## 10139.5	1.427846	-828.29073	831.14643	-1267.51722	1270.37291
## 10140.0	1.427846	-829.78051	832.63620	-1269.79564	1272.65133
## 10140.5	1.427846	-831.26762	834.12331	-1272.06998	1274.92567
## 10141.0	1.427846	-832.75208	835.60777	-1274.34026	1277.19595
## 10141.5	1.427846	-834.23391	837.08960	-1276.60651	1279.46221
## 10142.0	1.427846	-835.71311	838.56880	-1278.86876	1281.72445
## 10142.5	1.427846	-837.18970	840.04539	-1281.12701	1283.98270
## 10143.0	1.427846	-838.66369	841.51939	-1283.38129	1286.23698
## 10143.5	1.427846	-840.13511	842.99080	-1285.63162	1288.48732
## 10144.0	1.427846	-841.60395	844.45965	-1287.87803	1290.73372
## 10144.5	1.427846	-843.07024	845.92594	-1290.12053	1292.97622
## 10145.0	1.427846	-844.53399	847.38969	-1292.35914	1295.21483
## 10145.5	1.427846	-845.99522	848.85091	-1294.59389	1297.44958
## 10146.0	1.427846	-847.45392	850.30961	-1296.82478	1299.68048
## 10146.5	1.427846	-848.91013	851.76582	-1299.05186	1301.90755
## 10147.0	1.427846	-850.36384	853.21953	-1301.27512	1304.13081
## 10147.5	1.427846	-851.81508	854.67077	-1303.49460	1306.35029
## 10148.0	1.427846	-853.26385	856.11954	-1305.71030	1308.56600
## 10148.5	1.427846	-854.71017	857.56586	-1307.92226	1310.77795
## 10149.0	1.427846	-856.15405	859.00975	-1310.13049	1312.98618
## 10149.5	1.427846	-857.59551	860.45120	-1312.33501	1315.19070
## 10150.0	1.427846	-859.03455	861.89024	-1314.53583	1317.39152
## 10150.5	1.427846	-860.47119	863.32688	-1316.73298	1319.58867
## 10151.0	1.427846	-861.90544	864.76113	-1318.92647	1321.78216
## 10151.5	1.427846	-863.33731	866.19300	-1321.11632	1323.97202
## 10152.0	1.427846	-864.76681	867.62250	-1323.30256	1326.15825
## 10152.5	1.427846	-866.19395	869.04965	-1325.48519	1328.34088
## 10153.0	1.427846	-867.61876	870.47445	-1327.66424	1330.51993
## 10153.5	1.427846	-869.04123	871.89692	-1329.83972	1332.69541
## 10154.0	1.427846	-870.46138	873.31707	-1332.01165	1334.86735
## 10154.5	1.427846	-871.87922	874.73491	-1334.18005	1337.03575
## 10155.0	1.427846	-873.29476	876.15045	-1336.34494	1339.20063
## 10155.5	1.427846	-874.70802	877.56371	-1338.50633	1341.36202
## 10156.0	1.427846	-876.11900	878.97469	-1340.66423	1343.51993
## 10156.5	1.427846	-877.52771	880.38340	-1342.81868	1345.67437
## 10157.0	1.427846	-878.93417	881.78986	-1344.96967	1347.82536
## 10157.5	1.427846	-880.33839	883.19408	-1347.11724	1349.97293
## 10158.0	1.427846	-881.74037	884.59606	-1349.26139	1352.11708
## 10158.5	1.427846	-883.14013	885.99583	-1351.40214	1354.25783
## 10159.0	1.427846	-884.53768	887.39338	-1353.53951	1356.39520

## 10159.5	1.427846	-885.93303	888.78873	-1355.67351	1358.52920
## 10160.0	1.427846	-887.32619	890.18189	-1357.80416	1360.65985
## 10160.5	1.427846	-888.71717	891.57286	-1359.93148	1362.78717
## 10161.0	1.427846	-890.10598	892.96167	-1362.05548	1364.91117
## 10161.5	1.427846	-891.49263	894.34832	-1364.17617	1367.03187
## 10162.0	1.427846	-892.87713	895.73282	-1366.29358	1369.14927
## 10162.5	1.427846	-894.25948	897.11518	-1368.40772	1371.26341
## 10163.0	1.427846	-895.63971	898.49540	-1370.51859	1373.37428
## 10163.5	1.427846	-897.01782	899.87351	-1372.62622	1375.48192
## 10164.0	1.427846	-898.39382	901.24951	-1374.73063	1377.58632
## 10164.5	1.427846	-899.76771	902.62340	-1376.83182	1379.68752
## 10165.0	1.427846	-901.13952	903.99521	-1378.92982	1381.78551
## 10165.5	1.427846	-902.50924	905.36493	-1381.02463	1383.88032
## 10166.0	1.427846	-903.87689	906.73258	-1383.11627	1385.97196
## 10166.5	1.427846	-905.24248	908.09817	-1385.20475	1388.06045
## 10167.0	1.427846	-906.60601	909.46170	-1387.29010	1390.14579
## 10167.5	1.427846	-907.96750	910.82319	-1389.37232	1392.22801
## 10168.0	1.427846	-909.32695	912.18265	-1391.45142	1394.30711
## 10168.5	1.427846	-910.68438	913.54007	-1393.52743	1396.38312
## 10169.0	1.427846	-912.03979	914.89548	-1395.60035	1398.45604
## 10169.5	1.427846	-913.39319	916.24889	-1397.67020	1400.52589
## 10170.0	1.427846	-914.74460	917.60029	-1399.73699	1402.59269
## 10170.5	1.427846	-916.09401	918.94970	-1401.80074	1404.65643
## 10171.0	1.427846	-917.44144	920.29713	-1403.86146	1406.71715
## 10171.5	1.427846	-918.78690	921.64259	-1405.91916	1408.77485
## 10172.0	1.427846	-920.13039	922.98609	-1407.97386	1410.82955
## 10172.5	1.427846	-921.47193	924.32762	-1410.02556	1412.88125
## 10173.0	1.427846	-922.81152	925.66721	-1412.07429	1414.92998
## 10173.5	1.427846	-924.14917	927.00487	-1414.12005	1416.97574
## 10174.0	1.427846	-925.48489	928.34059	-1416.16286	1419.01855
## 10174.5	1.427846	-926.81869	929.67439	-1418.20273	1421.05842
## 10175.0	1.427846	-928.15058	931.00627	-1420.23967	1423.09537
## 10175.5	1.427846	-929.48056	932.33625	-1422.27370	1425.12939
## 10176.0	1.427846	-930.80864	933.66433	-1424.30483	1427.16052
## 10176.5	1.427846	-932.13483	934.99053	-1426.33307	1429.18876
## 10177.0	1.427846	-933.45915	936.31484	-1428.35843	1431.21412
## 10177.5	1.427846	-934.78159	937.63728	-1430.38092	1433.23661
## 10178.0	1.427846	-936.10216	938.95785	-1432.40056	1435.25626
## 10178.5	1.427846	-937.42087	940.27657	-1434.41737	1437.27306
## 10179.0	1.427846	-938.73774	941.59343	-1436.43134	1439.28703
## 10179.5	1.427846	-940.05276	942.90846	-1438.44249	1441.29819
## 10180.0	1.427846	-941.36595	944.22165	-1440.45085	1443.30654
## 10180.5	1.427846	-942.67732	945.53301	-1442.45640	1445.31210
## 10181.0	1.427846	-943.98686	946.84256	-1444.45918	1447.31487
## 10181.5	1.427846	-945.29460	948.15029	-1446.45918	1449.31488
## 10182.0	1.427846	-946.60052	949.45622	-1448.45643	1451.31212
## 10182.5	1.427846	-947.90466	950.76035	-1450.45093	1453.30662
## 10183.0	1.427846	-949.20700	952.06269	-1452.44269	1455.29838
## 10183.5	1.427846	-950.50756	953.36326	-1454.43173	1457.28742
## 10184.0	1.427846	-951.80635	954.66204	-1456.41805	1459.27374

## 10184.5	1.427846	-953.10337	955.95906	-1458.40167	1461.25737
## 10185.0	1.427846	-954.39863	957.25432	-1460.38260	1463.23830
## 10185.5	1.427846	-955.69214	958.54783	-1462.36085	1465.21654
## 10186.0	1.427846	-956.98390	959.83959	-1464.33643	1467.19212
## 10186.5	1.427846	-958.27392	961.12961	-1466.30935	1469.16504
## 10187.0	1.427846	-959.56221	962.41791	-1468.27962	1471.13531
## 10187.5	1.427846	-960.84878	963.70447	-1470.24726	1473.10295
## 10188.0	1.427846	-962.13363	964.98932	-1472.21226	1475.06795
## 10188.5	1.427846	-963.41677	966.27246	-1474.17465	1477.03034
## 10189.0	1.427846	-964.69820	967.55389	-1476.13443	1478.99013
## 10189.5	1.427846	-965.97794	968.83363	-1478.09162	1480.94731
## 10190.0	1.427846	-967.25598	970.11167	-1480.04622	1482.90192
## 10190.5	1.427846	-968.53234	971.38803	-1481.99825	1484.85394
## 10191.0	1.427846	-969.80703	972.66272	-1483.94771	1486.80340
## 10191.5	1.427846	-971.08004	973.93573	-1485.89462	1488.75031
## 10192.0	1.427846	-972.35139	975.20708	-1487.83898	1490.69467
## 10192.5	1.427846	-973.62108	976.47677	-1489.78080	1492.63649
## 10193.0	1.427846	-974.88912	977.74481	-1491.72010	1494.57579
## 10193.5	1.427846	-976.15551	979.01121	-1493.65689	1496.51258
## 10194.0	1.427846	-977.42027	980.27596	-1495.59116	1498.44686
## 10194.5	1.427846	-978.68340	981.53909	-1497.52295	1500.37864
## 10195.0	1.427846	-979.94490	982.80059	-1499.45224	1502.30794
## 10195.5	1.427846	-981.20478	984.06047	-1501.37906	1504.23476
## 10196.0	1.427846	-982.46304	985.31873	-1503.30342	1506.15911
## 10196.5	1.427846	-983.71970	986.57539	-1505.22531	1508.08100
## 10197.0	1.427846	-984.97476	987.83045	-1507.14476	1510.00045
## 10197.5	1.427846	-986.22822	989.08391	-1509.06176	1511.91746
## 10198.0	1.427846	-987.48010	990.33579	-1510.97634	1513.83203
## 10198.5	1.427846	-988.73039	991.58608	-1512.88850	1515.74419
## 10199.0	1.427846	-989.97910	992.83480	-1514.79824	1517.65393
## 10199.5	1.427846	-991.22625	994.08194	-1516.70558	1519.56128
## 10200.0	1.427846	-992.47183	995.32752	-1518.61053	1521.46623
## 10200.5	1.427846	-993.71585	996.57154	-1520.51310	1523.36879
## 10201.0	1.427846	-994.95831	997.81401	-1522.41329	1525.26898
## 10201.5	1.427846	-996.19923	999.05493	-1524.31111	1527.16680
## 10202.0	1.427846	-997.43861	1000.29430	-1526.20657	1529.06227
## 10202.5	1.427846	-998.67645	1001.53215	-1528.09969	1530.95538
## 10203.0	1.427846	-999.91277	1002.76846	-1529.99047	1532.84616
## 10203.5	1.427846	-1001.14755	1004.00325	-1531.87891	1534.73460
## 10204.0	1.427846	-1002.38082	1005.23651	-1533.76503	1536.62073
## 10204.5	1.427846	-1003.61258	1006.46827	-1535.64884	1538.50453
## 10205.0	1.427846	-1004.84282	1007.69852	-1537.53034	1540.38603
## 10205.5	1.427846	-1006.07157	1008.92726	-1539.40954	1542.26524
## 10206.0	1.427846	-1007.29882	1010.15451	-1541.28646	1544.14215
## 10206.5	1.427846	-1008.52458	1011.38027	-1543.16109	1546.01678
## 10207.0	1.427846	-1009.74885	1012.60454	-1545.03345	1547.88915
## 10207.5	1.427846	-1010.97164	1013.82733	-1546.90355	1549.75924
## 10208.0	1.427846	-1012.19295	1015.04865	-1548.77139	1551.62708
## 10208.5	1.427846	-1013.41280	1016.26849	-1550.63698	1553.49268
## 10209.0	1.427846	-1014.63118	1017.48687	-1552.50034	1555.35603

## 10209.5	1.427846	-1015.84810	1018.70379	-1554.36146	1557.21715
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## 10210.5	1.427846	-1018.27759	1021.13328	-1558.07704	1560.93273
## 10211.0	1.427846	-1019.49017	1022.34586	-1559.93151	1562.78721
## 10211.5	1.427846	-1020.70130	1023.55699	-1561.78379	1564.63948
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## 10213.0	1.427846	-1024.32613	1027.18183	-1567.32749	1570.18318
## 10213.5	1.427846	-1025.53157	1028.38726	-1569.17104	1572.02673
## 10214.0	1.427846	-1026.73559	1029.59128	-1571.01243	1573.86813
## 10214.5	1.427846	-1027.93820	1030.79389	-1572.85167	1575.70736
## 10215.0	1.427846	-1029.13941	1031.99510	-1574.68876	1577.54445
## 10215.5	1.427846	-1030.33922	1033.19491	-1576.52371	1579.37940
## 10216.0	1.427846	-1031.53764	1034.39333	-1578.35653	1581.21222
## 10216.5	1.427846	-1032.73466	1035.59036	-1580.18723	1583.04292
## 10217.0	1.427846	-1033.93031	1036.78600	-1582.01581	1584.87150
## 10217.5	1.427846	-1035.12457	1037.98027	-1583.84228	1586.69797
## 10218.0	1.427846	-1036.31746	1039.17316	-1585.66665	1588.52234
## 10218.5	1.427846	-1037.50899	1040.36468	-1587.48892	1590.34461
## 10219.0	1.427846	-1038.69914	1041.55483	-1589.30911	1592.16480
## 10219.5	1.427846	-1039.88794	1042.74363	-1591.12721	1593.98291
## 10220.0	1.427846	-1041.07538	1043.93107	-1592.94325	1595.79894
## 10220.5	1.427846	-1042.26147	1045.11716	-1594.75721	1597.61291
## 10221.0	1.427846	-1043.44621	1046.30190	-1596.56912	1599.42481
## 10221.5	1.427846	-1044.62961	1047.48530	-1598.37898	1601.23467
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## 10223.0	1.427846	-1048.17181	1051.02750	-1603.79630	1606.65199
## 10223.5	1.427846	-1049.34989	1052.20558	-1605.59802	1608.45371
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## 10224.5	1.427846	-1051.70209	1054.55778	-1609.19540	1612.05109
## 10225.0	1.427846	-1052.87622	1055.73192	-1610.99109	1613.84678
## 10225.5	1.427846	-1054.04905	1056.90474	-1612.78477	1615.64046
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## 10226.5	1.427846	-1056.39081	1059.24650	-1616.36618	1619.22187
## 10227.0	1.427846	-1057.55974	1060.41544	-1618.15391	1621.00960
## 10227.5	1.427846	-1058.72739	1061.58308	-1619.93967	1622.79536
## 10228.0	1.427846	-1059.89375	1062.74944	-1621.72347	1624.57916
## 10228.5	1.427846	-1061.05883	1063.91453	-1623.50531	1626.36100
## 10229.0	1.427846	-1062.22264	1065.07833	-1625.28519	1628.14089
## 10229.5	1.427846	-1063.38517	1066.24086	-1627.06314	1629.91883
## 10230.0	1.427846	-1064.54644	1067.40213	-1628.83914	1631.69483
## 10230.5	1.427846	-1065.70644	1068.56213	-1630.61321	1633.46890
## 10231.0	1.427846	-1066.86518	1069.72088	-1632.38535	1635.24104
## 10231.5	1.427846	-1068.02267	1070.87836	-1634.15558	1637.01127
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## 10232.5	1.427846	-1070.33389	1073.18959	-1637.69029	1640.54598
## 10233.0	1.427846	-1071.48764	1074.34333	-1639.45479	1642.31048
## 10233.5	1.427846	-1072.64014	1075.49584	-1641.21739	1644.07308
## 10234.0	1.427846	-1073.79141	1076.64711	-1642.97811	1645.83380

## 10234.5	1.427846	-1074.94145	1077.79714	-1644.73694	1647.59263
## 10235.0	1.427846	-1076.09026	1078.94596	-1646.49390	1649.34959
## 10235.5	1.427846	-1077.23785	1080.09354	-1648.24898	1651.10467
## 10236.0	1.427846	-1078.38422	1081.23991	-1650.00220	1652.85789
## 10236.5	1.427846	-1079.52937	1082.38506	-1651.75356	1654.60925
## 10237.0	1.427846	-1080.67331	1083.52901	-1653.50306	1656.35876
## 10237.5	1.427846	-1081.81605	1084.67174	-1655.25072	1658.10642
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## 10238.5	1.427846	-1084.09790	1086.95359	-1658.74052	1661.59621
## 10239.0	1.427846	-1085.23703	1088.09273	-1660.48267	1663.33836
## 10239.5	1.427846	-1086.37497	1089.23066	-1662.22300	1665.07869
## 10240.0	1.427846	-1087.51172	1090.36741	-1663.96151	1666.81720
## 10240.5	1.427846	-1088.64728	1091.50298	-1665.69820	1668.55389
## 10241.0	1.427846	-1089.78167	1092.63736	-1667.43309	1670.28878
## 10241.5	1.427846	-1090.91487	1093.77056	-1669.16617	1672.02187
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## 10243.0	1.427846	-1094.30745	1097.16314	-1674.35468	1677.21037
## 10243.5	1.427846	-1095.43598	1098.29167	-1676.08061	1678.93631
## 10244.0	1.427846	-1096.56335	1099.41904	-1677.80478	1680.66047
## 10244.5	1.427846	-1097.68956	1100.54525	-1679.52717	1682.38286
## 10245.0	1.427846	-1098.81462	1101.67031	-1681.24780	1684.10349
## 10245.5	1.427846	-1099.93853	1102.79422	-1682.96667	1685.82236
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## 10247.0	1.427846	-1103.30340	1106.15909	-1688.11279	1690.96849
## 10247.5	1.427846	-1104.42275	1107.27844	-1689.82469	1692.68038
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## 10249.0	1.427846	-1107.77401	1110.62971	-1694.95001	1697.80570
## 10249.5	1.427846	-1108.88885	1111.74455	-1696.65501	1699.51070
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## 10251.0	1.427846	-1112.22668	1115.08237	-1701.75978	1704.61547
## 10251.5	1.427846	-1113.33707	1116.19276	-1703.45797	1706.31366
## 10252.0	1.427846	-1114.44635	1117.30204	-1705.15447	1708.01016
## 10252.5	1.427846	-1115.55453	1118.41023	-1706.84929	1709.70498
## 10253.0	1.427846	-1116.66162	1119.51731	-1708.54242	1711.39812
## 10253.5	1.427846	-1117.76760	1120.62330	-1710.23389	1713.08958
## 10254.0	1.427846	-1118.87250	1121.72819	-1711.92368	1714.77937
## 10254.5	1.427846	-1119.97631	1122.83200	-1713.61181	1716.46750
## 10255.0	1.427846	-1121.07903	1123.93472	-1715.29828	1718.15397
## 10255.5	1.427846	-1122.18067	1125.03636	-1716.98309	1719.83878
## 10256.0	1.427846	-1123.28123	1126.13692	-1718.66625	1721.52194
## 10256.5	1.427846	-1124.38072	1127.23641	-1720.34777	1723.20346
## 10257.0	1.427846	-1125.47913	1128.33482	-1722.02764	1724.88334
## 10257.5	1.427846	-1126.57647	1129.43216	-1723.70589	1726.56158
## 10258.0	1.427846	-1127.67275	1130.52844	-1725.38250	1728.23819
## 10258.5	1.427846	-1128.76796	1131.62365	-1727.05748	1729.91317
## 10259.0	1.427846	-1129.86211	1132.71780	-1728.73084	1731.58653

## 10259.5	1.427846	-1130.95521	1133.81090	-1730.40259	1733.25828
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## 10260.5	1.427846	-1133.13824	1135.99393	-1733.74124	1736.59694
## 10261.0	1.427846	-1134.22818	1137.08387	-1735.40817	1738.26386
## 10261.5	1.427846	-1135.31708	1138.17277	-1737.07349	1739.92918
## 10262.0	1.427846	-1136.40493	1139.26062	-1738.73722	1741.59291
## 10262.5	1.427846	-1137.49175	1140.34744	-1740.39936	1743.25505
## 10263.0	1.427846	-1138.57753	1141.43322	-1742.05992	1744.91561
## 10263.5	1.427846	-1139.66227	1142.51797	-1743.71889	1746.57459
## 10264.0	1.427846	-1140.74599	1143.60168	-1745.37630	1748.23199
## 10264.5	1.427846	-1141.82868	1144.68437	-1747.03213	1749.88782
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## 10265.5	1.427846	-1143.99099	1146.84668	-1750.33909	1753.19478
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## 10266.5	1.427846	-1146.14922	1149.00491	-1753.63982	1756.49552
## 10267.0	1.427846	-1147.22682	1150.08251	-1755.28786	1758.14356
## 10267.5	1.427846	-1148.30340	1151.15909	-1756.93436	1759.79005
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## 10268.5	1.427846	-1150.45356	1153.30925	-1760.22274	1763.07843
## 10269.0	1.427846	-1151.52713	1154.38282	-1761.86462	1764.72032
## 10269.5	1.427846	-1152.59970	1155.45540	-1763.50499	1766.36068
## 10270.0	1.427846	-1153.67128	1156.52697	-1765.14382	1767.99952
## 10270.5	1.427846	-1154.74187	1157.59756	-1766.78114	1769.63683
## 10271.0	1.427846	-1155.81146	1158.66715	-1768.41695	1771.27264
## 10271.5	1.427846	-1156.88007	1159.73576	-1770.05124	1772.90693
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## 10272.5	1.427846	-1159.01433	1161.87002	-1773.31531	1776.17100
## 10273.0	1.427846	-1160.07999	1162.93568	-1774.94510	1777.80079
## 10273.5	1.427846	-1161.14467	1164.00037	-1776.57339	1779.42908
## 10274.0	1.427846	-1162.20838	1165.06408	-1778.20019	1781.05589
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## 10276.5	1.427846	-1167.51241	1170.36810	-1786.31201	1789.16770
## 10277.0	1.427846	-1168.57033	1171.42602	-1787.92995	1790.78565
## 10277.5	1.427846	-1169.62730	1172.48299	-1789.54644	1792.40214
## 10278.0	1.427846	-1170.68331	1173.53900	-1791.16147	1794.01717
## 10278.5	1.427846	-1171.73837	1174.59406	-1792.77505	1795.63074
## 10279.0	1.427846	-1172.79248	1175.64817	-1794.38718	1797.24287
## 10279.5	1.427846	-1173.84565	1176.70134	-1795.99786	1798.85355
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## 10287.5	1.427846	-1190.56978	1193.42548	-1821.57521	1824.43091
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## 10311.5	1.427846	-1239.39045	1242.24614	-1896.23998	1899.09567
## 10312.0	1.427846	-1240.38714	1243.24283	-1897.76428	1900.61997
## 10312.5	1.427846	-1241.38303	1244.23872	-1899.28736	1902.14305
## 10313.0	1.427846	-1242.37812	1245.23381	-1900.80922	1903.66491
## 10313.5	1.427846	-1243.37241	1246.22811	-1902.32987	1905.18556
## 10314.0	1.427846	-1244.36591	1247.22161	-1903.84930	1906.70499
## 10314.5	1.427846	-1245.35863	1248.21432	-1905.36751	1908.22321
## 10315.0	1.427846	-1246.35055	1249.20624	-1906.88453	1909.74022
## 10315.5	1.427846	-1247.34168	1250.19737	-1908.40033	1911.25603
## 10316.0	1.427846	-1248.33202	1251.18772	-1909.91494	1912.77063
## 10316.5	1.427846	-1249.32159	1252.17728	-1911.42834	1914.28404
## 10317.0	1.427846	-1250.31037	1253.16606	-1912.94055	1915.79624
## 10317.5	1.427846	-1251.29837	1254.15406	-1914.45157	1917.30726
## 10318.0	1.427846	-1252.28559	1255.14128	-1915.96139	1918.81708
## 10318.5	1.427846	-1253.27203	1256.12773	-1917.47003	1920.32572
## 10319.0	1.427846	-1254.25770	1257.11339	-1918.97748	1921.83317
## 10319.5	1.427846	-1255.24260	1258.09829	-1920.48375	1923.33944
## 10320.0	1.427846	-1256.22672	1259.08242	-1921.98884	1924.84453
## 10320.5	1.427846	-1257.21008	1260.06577	-1923.49275	1926.34844
## 10321.0	1.427846	-1258.19267	1261.04836	-1924.99549	1927.85118
## 10321.5	1.427846	-1259.17449	1262.03018	-1926.49706	1929.35275
## 10322.0	1.427846	-1260.15555	1263.01124	-1927.99745	1930.85315
## 10322.5	1.427846	-1261.13584	1263.99154	-1929.49669	1932.35238
## 10323.0	1.427846	-1262.11538	1264.97107	-1930.99476	1933.85045
## 10323.5	1.427846	-1263.09415	1265.94985	-1932.49167	1935.34736
## 10324.0	1.427846	-1264.07217	1266.92787	-1933.98742	1936.84311
## 10324.5	1.427846	-1265.04944	1267.90513	-1935.48201	1938.33771
## 10325.0	1.427846	-1266.02595	1268.88164	-1936.97546	1939.83115
## 10325.5	1.427846	-1267.00171	1269.85740	-1938.46775	1941.32344
## 10326.0	1.427846	-1267.97672	1270.83241	-1939.95890	1942.81459
## 10326.5	1.427846	-1268.95098	1271.80667	-1941.44890	1944.30459
## 10327.0	1.427846	-1269.92449	1272.78018	-1942.93776	1945.79345
## 10327.5	1.427846	-1270.89726	1273.75295	-1944.42548	1947.28118
## 10328.0	1.427846	-1271.86928	1274.72498	-1945.91207	1948.76776
## 10328.5	1.427846	-1272.84057	1275.69626	-1947.39752	1950.25321
## 10329.0	1.427846	-1273.81111	1276.66680	-1948.88184	1951.73753
## 10329.5	1.427846	-1274.78092	1277.63661	-1950.36503	1953.22072
## 10330.0	1.427846	-1275.74999	1278.60568	-1951.84709	1954.70279
## 10330.5	1.427846	-1276.71832	1279.57402	-1953.32804	1956.18373
## 10331.0	1.427846	-1277.68593	1280.54162	-1954.80786	1957.66355
## 10331.5	1.427846	-1278.65280	1281.50849	-1956.28656	1959.14225
## 10332.0	1.427846	-1279.61894	1282.47463	-1957.76414	1960.61983
## 10332.5	1.427846	-1280.58435	1283.44004	-1959.24061	1962.09631
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## 10333.5	1.427846	-1282.51300	1285.36869	-1962.19023	1965.04592
## 10334.0	1.427846	-1283.47624	1286.33193	-1963.66337	1966.51906

## 10334.5	1.427846	-1284.43875	1287.29445	-1965.13541	1967.99111
## 10335.0	1.427846	-1285.40055	1288.25624	-1966.60636	1969.46205
## 10335.5	1.427846	-1286.36163	1289.21732	-1968.07620	1970.93189
## 10336.0	1.427846	-1287.32199	1290.17768	-1969.54495	1972.40064
## 10336.5	1.427846	-1288.28164	1291.13733	-1971.01260	1973.86829
## 10337.0	1.427846	-1289.24057	1292.09626	-1972.47916	1975.33485
## 10337.5	1.427846	-1290.19879	1293.05449	-1973.94463	1976.80033
## 10338.0	1.427846	-1291.15630	1294.01200	-1975.40902	1978.26471
## 10338.5	1.427846	-1292.11311	1294.96880	-1976.87232	1979.72802
## 10339.0	1.427846	-1293.06920	1295.92489	-1978.33454	1981.19024
## 10339.5	1.427846	-1294.02459	1296.88028	-1979.79569	1982.65138
## 10340.0	1.427846	-1294.97928	1297.83497	-1981.25575	1984.11144
## 10340.5	1.427846	-1295.93326	1298.78895	-1982.71474	1985.57044
## 10341.0	1.427846	-1296.88654	1299.74223	-1984.17266	1987.02835
## 10341.5	1.427846	-1297.83912	1300.69482	-1985.62951	1988.48520
## 10342.0	1.427846	-1298.79101	1301.64670	-1987.08529	1989.94098
## 10342.5	1.427846	-1299.74220	1302.59789	-1988.54001	1991.39570
## 10343.0	1.427846	-1300.69269	1303.54838	-1989.99366	1992.84936
## 10343.5	1.427846	-1301.64249	1304.49818	-1991.44626	1994.30195
## 10344.0	1.427846	-1302.59160	1305.44729	-1992.89779	1995.75348
## 10344.5	1.427846	-1303.54002	1306.39571	-1994.34827	1997.20396
## 10345.0	1.427846	-1304.48774	1307.34344	-1995.79770	1998.65339
## 10345.5	1.427846	-1305.43479	1308.29048	-1997.24607	2000.10177
## 10346.0	1.427846	-1306.38114	1309.23683	-1998.69340	2001.54909
## 10346.5	1.427846	-1307.32681	1310.18251	-2000.13968	2002.99537
## 10347.0	1.427846	-1308.27180	1311.12750	-2001.58492	2004.44061
## 10347.5	1.427846	-1309.21611	1312.07180	-2003.02911	2005.88480
## 10348.0	1.427846	-1310.15974	1313.01543	-2004.47226	2007.32796
## 10348.5	1.427846	-1311.10269	1313.95838	-2005.91438	2008.77007
## 10349.0	1.427846	-1312.04496	1314.90065	-2007.35546	2010.21115
## 10349.5	1.427846	-1312.98656	1315.84225	-2008.79551	2011.65120
## 10350.0	1.427846	-1313.92748	1316.78317	-2010.23453	2013.09022
## 10350.5	1.427846	-1314.86773	1317.72342	-2011.67252	2014.52821
## 10351.0	1.427846	-1315.80731	1318.66300	-2013.10948	2015.96517
## 10351.5	1.427846	-1316.74622	1319.60191	-2014.54542	2017.40111
## 10352.0	1.427846	-1317.68446	1320.54015	-2015.98033	2018.83602
## 10352.5	1.427846	-1318.62203	1321.47773	-2017.41423	2020.26992
## 10353.0	1.427846	-1319.55894	1322.41463	-2018.84711	2021.70280
## 10353.5	1.427846	-1320.49519	1323.35088	-2020.27897	2023.13466
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## 10355.0	1.427846	-1323.29995	1326.15564	-2024.56848	2027.42418
## 10355.5	1.427846	-1324.23355	1327.08925	-2025.99631	2028.85200
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## 10357.5	1.427846	-1327.96141	1330.81710	-2031.69757	2034.55326
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## 10358.5	1.427846	-1329.82142	1332.67711	-2034.54221	2037.39790
## 10359.0	1.427846	-1330.75045	1333.60614	-2035.96304	2038.81874

## 10359.5	1.427846	-1331.67884	1334.53453	-2037.38289	2040.23858
## 10360.0	1.427846	-1332.60657	1335.46227	-2038.80174	2041.65743
## 10360.5	1.427846	-1333.53367	1336.38936	-2040.21961	2043.07530
## 10361.0	1.427846	-1334.46012	1337.31581	-2041.63649	2044.49218
## 10361.5	1.427846	-1335.38593	1338.24162	-2043.05239	2045.90809
## 10362.0	1.427846	-1336.31110	1339.16679	-2044.46732	2047.32301
## 10362.5	1.427846	-1337.23562	1340.09132	-2045.88126	2048.73695
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## 10364.0	1.427846	-1340.00539	1342.86108	-2050.11725	2052.97294
## 10364.5	1.427846	-1340.92737	1343.78306	-2051.52730	2054.38299
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## 10365.5	1.427846	-1342.76944	1345.62513	-2054.34450	2057.20020
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## 10367.0	1.427846	-1345.52782	1348.38352	-2058.56309	2061.41878
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## 10369.5	1.427846	-1350.11262	1352.96831	-2065.57492	2068.43062
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## 10371.5	1.427846	-1353.76929	1356.62498	-2071.16732	2074.02301
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## 10377.5	1.427846	-1364.68057	1367.53626	-2087.85468	2090.71037
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## 10378.5	1.427846	-1366.49065	1369.34634	-2090.62296	2093.47865
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## 10379.5	1.427846	-1368.29834	1371.15404	-2093.38759	2096.24328
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## 10383.0	1.427846	-1374.60657	1377.46226	-2103.03518	2105.89088
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## 10384.0	1.427846	-1376.40361	1379.25930	-2105.78353	2108.63922

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## 10386.5	1.427846	-1380.88600	1383.74170	-2112.63875	2115.49445
## 10387.0	1.427846	-1381.78074	1384.63643	-2114.00713	2116.86283
## 10387.5	1.427846	-1382.67490	1385.53059	-2115.37463	2118.23032
## 10388.0	1.427846	-1383.56848	1386.42417	-2116.74124	2119.59693
## 10388.5	1.427846	-1384.46148	1387.31717	-2118.10697	2120.96266
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## 10390.0	1.427846	-1387.13704	1389.99274	-2122.19889	2125.05459
## 10390.5	1.427846	-1388.02775	1390.88345	-2123.56112	2126.41681
## 10391.0	1.427846	-1388.91789	1391.77358	-2124.92247	2127.77816
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## 10392.5	1.427846	-1391.58490	1394.44059	-2129.00130	2131.85699
## 10393.0	1.427846	-1392.47276	1395.32846	-2130.35918	2133.21487
## 10393.5	1.427846	-1393.36007	1396.21576	-2131.71619	2134.57188
## 10394.0	1.427846	-1394.24681	1397.10250	-2133.07234	2135.92803
## 10394.5	1.427846	-1395.13298	1397.98867	-2134.42762	2137.28332
## 10395.0	1.427846	-1396.01859	1398.87429	-2135.78205	2138.63775
## 10395.5	1.427846	-1396.90365	1399.75934	-2137.13562	2139.99132
## 10396.0	1.427846	-1397.78814	1400.64383	-2138.48834	2141.34403
## 10396.5	1.427846	-1398.67207	1401.52777	-2139.84020	2142.69589
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## 10397.5	1.427846	-1400.43827	1403.29396	-2142.54136	2145.39706
## 10398.0	1.427846	-1401.32053	1404.17623	-2143.89067	2146.74636
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## 10404.5	1.427846	-1412.73988	1415.59557	-2161.35505	2164.21074
## 10405.0	1.427846	-1413.61447	1416.47016	-2162.69262	2165.54832
## 10405.5	1.427846	-1414.48852	1417.34422	-2164.02937	2166.88507
## 10406.0	1.427846	-1415.36204	1418.21773	-2165.36530	2168.22099
## 10406.5	1.427846	-1416.23502	1419.09071	-2166.70040	2169.55609
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## 10407.5	1.427846	-1417.97936	1420.83505	-2169.36814	2172.22384
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## 10408.5	1.427846	-1419.72156	1422.57725	-2172.03261	2174.88830
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## 10413.0	1.427846	-1427.53518	1430.39087	-2183.98251	2186.83820
## 10413.5	1.427846	-1428.40072	1431.25641	-2185.30624	2188.16194
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## 10414.5	1.427846	-1430.13024	1432.98593	-2187.95131	2190.80701
## 10415.0	1.427846	-1430.99422	1433.84991	-2189.27265	2192.12834
## 10415.5	1.427846	-1431.85767	1434.71336	-2190.59319	2193.44888
## 10416.0	1.427846	-1432.72061	1435.57630	-2191.91294	2194.76863
## 10416.5	1.427846	-1433.58302	1436.43871	-2193.23189	2196.08758
## 10417.0	1.427846	-1434.44492	1437.30061	-2194.55005	2197.40574
## 10417.5	1.427846	-1435.30630	1438.16199	-2195.86742	2198.72311
## 10418.0	1.427846	-1436.16717	1439.02286	-2197.18400	2200.03969
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## 10419.0	1.427846	-1437.88735	1440.74305	-2199.81480	2202.67049
## 10419.5	1.427846	-1438.74668	1441.60237	-2201.12902	2203.98471
## 10420.0	1.427846	-1439.60549	1442.46118	-2202.44245	2205.29815
## 10420.5	1.427846	-1440.46378	1443.31948	-2203.75511	2206.61080
## 10421.0	1.427846	-1441.32157	1444.17727	-2205.06698	2207.92267
## 10421.5	1.427846	-1442.17885	1445.03454	-2206.37807	2209.23377
## 10422.0	1.427846	-1443.03562	1445.89131	-2207.68839	2210.54408
## 10422.5	1.427846	-1443.89188	1446.74757	-2208.99793	2211.85362
## 10423.0	1.427846	-1444.74764	1447.60333	-2210.30669	2213.16239
## 10423.5	1.427846	-1445.60288	1448.45858	-2211.61468	2214.47038
## 10424.0	1.427846	-1446.45763	1449.31332	-2212.92190	2215.77759
## 10424.5	1.427846	-1447.31187	1450.16756	-2214.22835	2217.08404
## 10425.0	1.427846	-1448.16560	1451.02130	-2215.53402	2218.38971
## 10425.5	1.427846	-1449.01884	1451.87453	-2216.83893	2219.69462
## 10426.0	1.427846	-1449.87157	1452.72726	-2218.14307	2220.99876
## 10426.5	1.427846	-1450.72380	1453.57949	-2219.44644	2222.30214
## 10427.0	1.427846	-1451.57553	1454.43122	-2220.74905	2223.60475
## 10427.5	1.427846	-1452.42676	1455.28245	-2222.05090	2224.90659
## 10428.0	1.427846	-1453.27749	1456.13319	-2223.35199	2226.20768
## 10428.5	1.427846	-1454.12773	1456.98342	-2224.65231	2227.50800
## 10429.0	1.427846	-1454.97747	1457.83316	-2225.95188	2228.80757
## 10429.5	1.427846	-1455.82672	1458.68241	-2227.25068	2230.10638
## 10430.0	1.427846	-1456.67547	1459.53116	-2228.54873	2231.40443
## 10430.5	1.427846	-1457.52372	1460.37941	-2229.84603	2232.70172
## 10431.0	1.427846	-1458.37149	1461.22718	-2231.14257	2233.99827
## 10431.5	1.427846	-1459.21876	1462.07445	-2232.43836	2235.29406
## 10432.0	1.427846	-1460.06554	1462.92123	-2233.73340	2236.58909
## 10432.5	1.427846	-1460.91183	1463.76752	-2235.02769	2237.88338
## 10433.0	1.427846	-1461.75763	1464.61332	-2236.32123	2239.17692
## 10433.5	1.427846	-1462.60294	1465.45863	-2237.61402	2240.46971
## 10434.0	1.427846	-1463.44776	1466.30346	-2238.90607	2241.76176

## 10434.5	1.427846	-1464.29210	1467.14779	-2240.19737	2243.05306
## 10435.0	1.427846	-1465.13595	1467.99164	-2241.48793	2244.34362
## 10435.5	1.427846	-1465.97932	1468.83501	-2242.77775	2245.63344
## 10436.0	1.427846	-1466.82220	1469.67789	-2244.06682	2246.92251
## 10436.5	1.427846	-1467.66460	1470.52029	-2245.35516	2248.21085
## 10437.0	1.427846	-1468.50651	1471.36220	-2246.64276	2249.49845
## 10437.5	1.427846	-1469.34794	1472.20364	-2247.92962	2250.78531
## 10438.0	1.427846	-1470.18890	1473.04459	-2249.21574	2252.07143
## 10438.5	1.427846	-1471.02937	1473.88506	-2250.50113	2253.35682
## 10439.0	1.427846	-1471.86936	1474.72505	-2251.78579	2254.64148
## 10439.5	1.427846	-1472.70887	1475.56456	-2253.06971	2255.92541
## 10440.0	1.427846	-1473.54791	1476.40360	-2254.35291	2257.20860
## 10440.5	1.427846	-1474.38647	1477.24216	-2255.63537	2258.49106
## 10441.0	1.427846	-1475.22455	1478.08024	-2256.91711	2259.77280
## 10441.5	1.427846	-1476.06216	1478.91785	-2258.19812	2261.05381
## 10442.0	1.427846	-1476.89929	1479.75498	-2259.47840	2262.33409
## 10442.5	1.427846	-1477.73595	1480.59164	-2260.75796	2263.61365
## 10443.0	1.427846	-1478.57213	1481.42782	-2262.03680	2264.89249
## 10443.5	1.427846	-1479.40785	1482.26354	-2263.31491	2266.17060
## 10444.0	1.427846	-1480.24309	1483.09878	-2264.59230	2267.44799
## 10444.5	1.427846	-1481.07786	1483.93355	-2265.86897	2268.72467
## 10445.0	1.427846	-1481.91216	1484.76785	-2267.14493	2270.00062
## 10445.5	1.427846	-1482.74599	1485.60169	-2268.42017	2271.27586
## 10446.0	1.427846	-1483.57936	1486.43505	-2269.69469	2272.55038
## 10446.5	1.427846	-1484.41226	1487.26795	-2270.96849	2273.82419
## 10447.0	1.427846	-1485.24469	1488.10038	-2272.24159	2275.09728
## 10447.5	1.427846	-1486.07665	1488.93234	-2273.51397	2276.36966
## 10448.0	1.427846	-1486.90815	1489.76384	-2274.78563	2277.64133
## 10448.5	1.427846	-1487.73919	1490.59488	-2276.05659	2278.91229
## 10449.0	1.427846	-1488.56976	1491.42545	-2277.32684	2280.18254
## 10449.5	1.427846	-1489.39987	1492.25556	-2278.59639	2281.45208
## 10450.0	1.427846	-1490.22951	1493.08521	-2279.86522	2282.72091
## 10450.5	1.427846	-1491.05870	1493.91439	-2281.13335	2283.98904
## 10451.0	1.427846	-1491.88743	1494.74312	-2282.40078	2285.25647
## 10451.5	1.427846	-1492.71569	1495.57138	-2283.66750	2286.52319
## 10452.0	1.427846	-1493.54350	1496.39919	-2284.93352	2287.78922
## 10452.5	1.427846	-1494.37085	1497.22654	-2286.19884	2289.05454
## 10453.0	1.427846	-1495.19774	1498.05343	-2287.46347	2290.31916
## 10453.5	1.427846	-1496.02417	1498.87987	-2288.72739	2291.58308
## 10454.0	1.427846	-1496.85015	1499.70584	-2289.99061	2292.84631
## 10454.5	1.427846	-1497.67568	1500.53137	-2291.25314	2294.10884
## 10455.0	1.427846	-1498.50075	1501.35644	-2292.51498	2295.37067
## 10455.5	1.427846	-1499.32536	1502.18105	-2293.77612	2296.63181
## 10456.0	1.427846	-1500.14953	1503.00522	-2295.03657	2297.89226
## 10456.5	1.427846	-1500.97324	1503.82893	-2296.29633	2299.15202
## 10457.0	1.427846	-1501.79650	1504.65219	-2297.55539	2300.41109
## 10457.5	1.427846	-1502.61930	1505.47500	-2298.81377	2301.66946
## 10458.0	1.427846	-1503.44166	1506.29736	-2300.07146	2302.92715
## 10458.5	1.427846	-1504.26357	1507.11927	-2301.32846	2304.18416
## 10459.0	1.427846	-1505.08504	1507.94073	-2302.58478	2305.44047

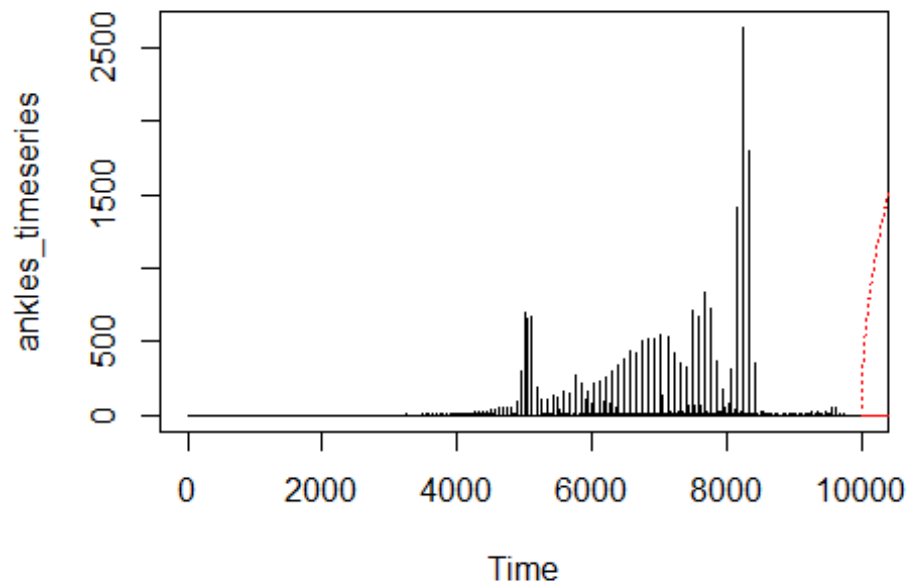
## 10459.5	1.427846	-1505.90605	1508.76174	-2303.84041	2306.69611
## 10460.0	1.427846	-1506.72662	1509.58231	-2305.09536	2307.95106
## 10460.5	1.427846	-1507.54674	1510.40243	-2306.34963	2309.20532
## 10461.0	1.427846	-1508.36641	1511.22211	-2307.60322	2310.45891
## 10461.5	1.427846	-1509.18564	1512.04134	-2308.85612	2311.71181
## 10462.0	1.427846	-1510.00443	1512.86012	-2310.10835	2312.96404
## 10462.5	1.427846	-1510.82277	1513.67847	-2311.35989	2314.21559
## 10463.0	1.427846	-1511.64067	1514.49637	-2312.61076	2315.46646
## 10463.5	1.427846	-1512.45813	1515.31382	-2313.86096	2316.71665
## 10464.0	1.427846	-1513.27515	1516.13084	-2315.11048	2317.96617
## 10464.5	1.427846	-1514.09173	1516.94742	-2316.35933	2319.21502
## 10465.0	1.427846	-1514.90786	1517.76356	-2317.60750	2320.46319
## 10465.5	1.427846	-1515.72356	1518.57925	-2318.85500	2321.71070
## 10466.0	1.427846	-1516.53882	1519.39451	-2320.10184	2322.95753
## 10466.5	1.427846	-1517.35364	1520.20934	-2321.34800	2324.20369
## 10467.0	1.427846	-1518.16803	1521.02372	-2322.59350	2325.44919
## 10467.5	1.427846	-1518.98198	1521.83767	-2323.83832	2326.69402
## 10468.0	1.427846	-1519.79549	1522.65119	-2325.08249	2327.93818
## 10468.5	1.427846	-1520.60857	1523.46426	-2326.32598	2329.18167
## 10469.0	1.427846	-1521.42122	1524.27691	-2327.56881	2330.42451
## 10469.5	1.427846	-1522.23343	1525.08912	-2328.81098	2331.66668
## 10470.0	1.427846	-1523.04521	1525.90090	-2330.05249	2332.90819
## 10470.5	1.427846	-1523.85655	1526.71225	-2331.29334	2334.14903
## 10471.0	1.427846	-1524.66747	1527.52316	-2332.53353	2335.38922
## 10471.5	1.427846	-1525.47795	1528.33365	-2333.77306	2336.62875
## 10472.0	1.427846	-1526.28801	1529.14370	-2335.01193	2337.86762
## 10472.5	1.427846	-1527.09763	1529.95333	-2336.25014	2339.10584
## 10473.0	1.427846	-1527.90683	1530.76252	-2337.48770	2340.34340
## 10473.5	1.427846	-1528.71560	1531.57129	-2338.72461	2341.58030
## 10474.0	1.427846	-1529.52394	1532.37963	-2339.96086	2342.81655
## 10474.5	1.427846	-1530.33185	1533.18755	-2341.19646	2344.05215
## 10475.0	1.427846	-1531.13934	1533.99504	-2342.43141	2345.28710
## 10475.5	1.427846	-1531.94641	1534.80210	-2343.66570	2346.52140
## 10476.0	1.427846	-1532.75305	1535.60874	-2344.89935	2347.75505
## 10476.5	1.427846	-1533.55926	1536.41495	-2346.13235	2348.98805
## 10477.0	1.427846	-1534.36505	1537.22075	-2347.36471	2350.22040
## 10477.5	1.427846	-1535.17042	1538.02612	-2348.59641	2351.45210
## 10478.0	1.427846	-1535.97537	1538.83106	-2349.82747	2352.68317
## 10478.5	1.427846	-1536.77990	1539.63559	-2351.05789	2353.91358
## 10479.0	1.427846	-1537.58400	1540.43970	-2352.28766	2355.14336
## 10479.5	1.427846	-1538.38769	1541.24338	-2353.51680	2356.37249
## 10480.0	1.427846	-1539.19096	1542.04665	-2354.74529	2357.60098
## 10480.5	1.427846	-1539.99380	1542.84950	-2355.97314	2358.82883
## 10481.0	1.427846	-1540.79623	1543.65193	-2357.20035	2360.05604
## 10481.5	1.427846	-1541.59825	1544.45394	-2358.42692	2361.28261
## 10482.0	1.427846	-1542.39984	1545.25554	-2359.65286	2362.50855
## 10482.5	1.427846	-1543.20102	1546.05672	-2360.87815	2363.73385
## 10483.0	1.427846	-1544.00179	1546.85748	-2362.10282	2364.95851
## 10483.5	1.427846	-1544.80214	1547.65783	-2363.32685	2366.18254
## 10484.0	1.427846	-1545.60207	1548.45777	-2364.55025	2367.40594

```
## 10484.5      1.427846 -1546.40160 1549.25729 -2365.77301 2368.62870
## 10485.0      1.427846 -1547.20071 1550.05640 -2366.99514 2369.85084
## 10485.5      1.427846 -1547.99940 1550.85510 -2368.21665 2371.07234
## 10486.0      1.427846 -1548.79769 1551.65338 -2369.43752 2372.29321
## 10486.5      1.427846 -1549.59557 1552.45126 -2370.65776 2373.51346
## 10487.0      1.427846 -1550.39303 1553.24872 -2371.87738 2374.73307
## 10487.5      1.427846 -1551.19009 1554.04578 -2373.09637 2375.95207
## 10488.0      1.427846 -1551.98673 1554.84243 -2374.31474 2377.17043
## 10488.5      1.427846 -1552.78297 1555.63866 -2375.53248 2378.38817
## 10489.0      1.427846 -1553.57880 1556.43450 -2376.74960 2379.60529
## 10489.5      1.427846 -1554.37423 1557.22992 -2377.96609 2380.82179
## 10490.0      1.427846 -1555.16924 1558.02494 -2379.18197 2382.03766
## 10490.5      1.427846 -1555.96385 1558.81955 -2380.39722 2383.25291
## 10491.0      1.427846 -1556.75806 1559.61375 -2381.61185 2384.46755
## 10491.5      1.427846 -1557.55186 1560.40755 -2382.82587 2385.68156
## 10492.0      1.427846 -1558.34526 1561.20095 -2384.03926 2386.89496
## 10492.5      1.427846 -1559.13825 1561.99395 -2385.25204 2388.10774
## 10493.0      1.427846 -1559.93084 1562.78654 -2386.46421 2389.31990
## 10493.5      1.427846 -1560.72303 1563.57873 -2387.67576 2390.53145
## 10494.0      1.427846 -1561.51482 1564.37051 -2388.88669 2391.74238
## 10494.5      1.427846 -1562.30621 1565.16190 -2390.09701 2392.95270
## 10495.0      1.427846 -1563.09719 1565.95289 -2391.30672 2394.16241
## 10495.5      1.427846 -1563.88778 1566.74347 -2392.51582 2395.37151
## 10496.0      1.427846 -1564.67797 1567.53366 -2393.72431 2396.58000
## 10496.5      1.427846 -1565.46776 1568.32345 -2394.93219 2397.78788
## 10497.0      1.427846 -1566.25715 1569.11284 -2396.13945 2398.99515
## 10497.5      1.427846 -1567.04614 1569.90183 -2397.34612 2400.20181
## 10498.0      1.427846 -1567.83474 1570.69043 -2398.55217 2401.40786
## 10498.5      1.427846 -1568.62294 1571.47863 -2399.75762 2402.61331
## 10499.0      1.427846 -1569.41075 1572.26644 -2400.96247 2403.81816
## 10499.5      1.427846 -1570.19816 1573.05385 -2402.16671 2405.02240
## 10500.0      1.427846 -1570.98517 1573.84087 -2403.37034 2406.22604
```

*#Just another way to show the future 1000 predictions with data in the positive as the acceleration values are positive in this particular dataset.*

```
fit<-arima(ankles_timeseries,order=c(0,1,0))
plot(ankles_timeseries)
A.pred <- predict(fit,n.ahead=1000)
lines(A.pred$pred,col="red")
lines(A.pred$pred+2*A.pred$se,col="red",lty=3)
```





*#Thus Arima model is used to predict the future values of a time series dataset and for the dataset I am using, it helps in prediction of the future values of the ankle acceleration and hereby helping in prediction of parkinsons disease in a person.*

*#NOTE: I have used only the acceleration data here but can also be applied to the speech data that I am using in my project.*