1 /Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/bin/java -javaagent:/Users/huyang/Library/Application Support/JetBrains/Toolbox/apps/IDEA-U/ch-0/213	3.
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curator/curator-recipes/4.2.0/curator-recipes-4.2.0.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/com/google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar:/Users/huyang/.m2/repository/code/findbugs/jsr305/3.0.2/jsr305/3.0.2/jsr305/3.0.2/jsr305/3.0.2/jsr305/3.0.2/jsr305/3.0.2/jsr305/3.0.2/jsr305/3.0.2/jsr305	
org/apache/zookeeper/zookeeper/3.5.6/zookeeper-3.5.6.jar:/Users/huyang/.m2/repository/org/apache/zookeeper-jute/3.5.6/zookeeper-jute-3.5.6.jar:/Users/huyang/m2/repository/org/apache/yetus/audience-annotations/0.5.0/audience-annotations-0.5.0.jar:/Users/huyang/.m2/repository/io/netty/netty-handler/4.1.42.Final/netty-h	
mz/repository/org/apache/yetos/audience-annotations/0.5.0/audience-annotations-0.5.0.jar:/users/noyang/.mz/repository/id/netty/netty-nandler/4.1.42.Final/ne	LE14

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1 .1.42.Final.jar:/Users/huvang/.m2/repository/io/netty/netty-common/4.1.42.Final/netty-common-4.1.42.Final.jar:/Users/huvang/.m2/repository/io/netty/netty-buffer/4.1.42.
   Final/netty-buffer-4.1.42.Final.jar:/Users/huyang/.m2/repository/io/netty-transport/4.1.42.Final/netty-transport-4.1.42.Final.jar:/Users/huyang/.m2/repository/io/
   netty/netty-resolver/4.1.42.Final/netty-resolver-4.1.42.Final.jar:/Users/huyang/.m2/repository/io/netty/netty-codec/4.1.42.Final/netty-codec-4.1.42.Final.jar:/Users/
   huvang/.m2/repository/io/netty/netty-transport-native-epoll/4.1.42.Final/netty-transport-native-epoll-4.1.42.Final.jar:/Users/huvang/.m2/repository/io/netty/netty-
   transport-native-unix-common/4.1.42.Final/netty-transport-native-unix-common-4.1.42.Final.jar:/Users/huvang/.m2/repository/org/slf4i/slf4i-log4i12/1.7.25/slf4i-log4i12-1
   .7.25.jar:/Users/huvang/.m2/repository/log4i/log4i/log4i/log4i/log4i-1.2.17.jar:/Users/huvang/.m2/repository/org/apache/commons-compress/1.21/commons-compress-1.21.
   iar:/Users/huvang/.m2/repository/org/apache/kerby/kerb-core/1.0.1/kerb-core-1.0.1.jar:/Users/huvang/.m2/repository/org/apache/kerby/kerb-core/1.0.1/kerb-core/1.0.1.jar
   :/Users/huvang/.m2/repository/org/apache/kerby/kerby-asn1/1.0.1/kerby-asn1/1.0.1.jar:/Users/huvang/.m2/repository/org/apache/kerby/kerby-util/1.0.1/kerby-util-1.0.1.jar
   :/Users/huyang/.m2/repository/com/fasterxml/jackson/core/jackson-databind/2.13.2.2/jackson-databind-2.13.2.2.jar:/Users/huyang/.m2/repository/com/fasterxml/jackson/core/
   iackson-annotations/2.13.2/jackson-annotations-2.13.2.jar:/Users/huvang/.m2/repository/com/fasterxml/jackson/core/jackson-core/2.13.2/jackson-core-2.13.2.jar:/Users/
   huvang/.m2/repository/org/codehaus/woodstox/stax2-api/4.2.1/stax2-api-4.2.1.jar:/Users/huvang/.m2/repository/com/fasterxml/woodstox/woodstox-core/5.3.0/woodstox-core-5.3
   .0.iar:/Users/huvang/.m2/repository/dnsjava/dnsjava/2.1.7/dnsjava-2.1.7.jar:/Users/huvang/.m2/repository/org/xerjal/snappy/snappy-java/1.1.8.2/snappy-java-1.1.8.2.jar:/
   Users/huyang/.m2/repository/org/apache/hadoop/hdfs/3.3.3/hadoop-hdfs-3.3.3.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-util-ajax/9.4.43.v20210629/
   ietty-util-ajax-9.4.43.v20210629.jar:/Users/huvang/.m2/repository/commons-daemon/commons-daemon/1.0.13/commons-daemon-1.0.13.jar:/Users/huvang/.m2/repository/io/netty/
   netty/3.10.6.Final/netty-3.10.6.Final.jar:/Users/huyang/.m2/repository/io/netty/netty-all/4.1.68.Final/netty-all-4.1.68.Final.jar:/Users/huyang/.m2/repository/og/
   fusesource/leveldbini/leveldbini-all/1.8/leveldbini-all-1.8.jar:/Users/huvang/.m2/repository/org/apache/hadoop/hadoop-mapreduce-client-core/3.3.3/hadoop-mapreduce-client
   -core-3.3.3.jar:/Users/huvang/.m2/repository/org/apache/hadoop/hadoop-varn-client/3.3.3/hadoop-varn-client-3.3.3.jar:/Users/huvang/.m2/repository/org/eclipse/jetty/
   websocket/websocket-client/9.4.43.v20210629/websocket-client-9.4.43.v20210629/jetty-
   client-9.4.43.v20210629.iar:/Users/huvang/.m2/repository/org/eclipse/jetty/websocket/websocket-common/9.4.43.v20210629/websocket-common-9.4.43.v20210629.jar:/Users/
   huyang/.m2/repository/org/eclipse/jetty/websocket/websocket-api/9.4.43.v20210629/websocket-api-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop
   -varn-api/3.3.3/hadoop-varn-api-3.3.3.iar:/Users/huvang/.m2/repository/org/iline/iline/3.9.0/iline-3.9.0.iar:/Users/huvang/.m2/repository/org/apache/hadoop/hadoop-varn-
   common/3.3.3/hadoop-varn-common-3.3.3.jar:/Users/huyang/.m2/repository/javax/xml/bind/jaxb-api/2.2.11/jaxb-api-2.2.11.jar:/Users/huyang/.m2/repository/com/sun/jersey/
   iersev-client/1.19/iersev-client-1.19.iar:/Users/huvang/.m2/repository/com/google/inject/guice/4.0/guice-4.0.jar:/Users/huvang/.m2/repository/javax/inject/javax.inject/1
   /iavax.inject-1.iar:/Users/huvang/.m2/repository/aopalliance/aopalliance/1.0/aopalliance-1.0.jar:/Users/huvang/.m2/repository/com/sun/jersey/contribs/jersey-guice/1.19/
   jersey-quice-1.19.jar:/Users/huyang/.m2/repository/com/fasterxml/jackson/module/jackson-module-jaxb-annotations/2.13.2/jackson-module-jaxb-annotations-2.13.2.jar:/Users/
   huvang/.m2/repository/jakarta/xml/bind/jakarta.xml.bind-api/2.3.3/jakarta.xml.bind-api-2.3.3.jar:/Users/huvang/.m2/repository/com/fasterxml/jackson/jaxrs/jackson-jaxrs-
   json-provider/2.13.2/jackson-jaxrs-json-provider-2.13.2.jar:/Users/huyanq/.m2/repository/com/fasterxml/jackson/jaxrs/jackson-jaxrs-base/2.13.2/jackson-jaxrs-base-2.13.2.
   iar:/Users/huvang/.m2/repository/org/apache/hadoop/hddoop-hdfs-client/3.3.3/hadoop-hdfs-client-3.3.3.iar:/Users/huvang/.m2/repository/com/sguareup/okhttp/okhttp/2.7.5/
   okhttp-2.7.5.jar:/Users/huyanq/.m2/repository/com/squareup/okio/0kio/1.6.0/okio-1.6.0.jar:/Users/huyanq/.m2/repository/javax/ws/rs-api/2.1.1/javax.ws.rs-api-
   2.1.1.jar:/Users/huvang/.m2/repository/com/google/inject/extensions/guice-servlet/4.0/guice-servlet-4.0.jar:/Users/huvang/.m2/repository/org/apache/hadoop/hadoop-
   mapreduce-client-jobclient/3.3.3/hadoop-mapreduce-client-jobclient-3.3.3.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-mapreduce-client-common/3.3.3/hadoop-
   mapreduce-client-common-3.3.3.jar MyDriver 6 test_input/very_hard.txt 1000 50
 2 SLF4J: Class path contains multiple SLF4J bindings.
 3 SLF4J: Found binding in [jar:file:/Users/huyang/.m2/repository/org/slf4j/slf4j-reload4j/1.7.36/slf4j-reload4j-1.7.36.jar!/org/slf4j/impl/StaticLoggerBinder.class]
 4 SLF4J: Found binding in [jar:file:/Users/huvang/.m2/repository/org/slf4j/slf4j-log4j12/1.7.25/slf4j-log4j12-1.7.25.jar!/org/slf4j/impl/StaticLoggerBinder.class]
 5 SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
 6 SLF4J: Actual binding is of type [org.slf4j.impl.Reload4jLoggerFactory]
 7 log4j:WARN No appenders could be found for logger (org.apache.hadoop.util.Shell).
 8 log4j:WARN Please initialize the log4j system properly.
 9 log4i:WARN See http://logging.apache.org/log4i/1.2/fag.html#noconfig for more info.
10 [INFO] Generated trial population!
11 [INFO] numOnes: 891
12 [INFO] proportionOfOnes: 0.002475
13 [INFO] MyReducer.pMutationPerBit: 2.4750000000000005E-4
14 [INFO] InitMapper.pOnes: 2.4750000000000005E-4
15 [INFO] Program started.
16 [INFO] Number of Mappers: 6
17 [INFO] Number of Reducers: 6
18 [INFO] Convergence Threshold: 15
19 [WARNING] Existing files from temporary directory will be deleted: /Users/huyang/Hadoop_runtime/GeneticAlgoRuntimeTmp
20 [INFO] Generating initial population...
21 [INFO] Finished generating initial population!
22 [INFO] Running iteration 1...
23 -----
24 Iteration 1
25 -----
26 Population: 276865
27 Gene Length: 600
```

```
29 Best Fitness: 600712
30 Best Weight: 600310
31 Time Taken: 8291ms
32
33 [INFO] Running iteration 2...
35 Iteration 2
36 -----
37 Population: 276865
38 Gene Length: 600
40 Best Fitness: 600744
41 Best Weight: 600499
42 Time Taken: 8275ms
44 [INFO] Running iteration 3...
45 -----
46 Iteration 3
47 -----
48 Population: 276865
49 Gene Length: 600
51 Best Fitness: 600973
52 Best Weight: 600366
53 Time Taken: 7262ms
55 [INFO] Running iteration 4...
56 -----
57 Iteration 4
58 -----
59 Population: 276865
60 Gene Length: 600
62 Best Fitness: 601008
63 Best Weight: 600382
64 Time Taken: 6239ms
66 [INFO] Running iteration 5...
67 -----
68 Iteration 5
69 -----
```

```
70 Ponulation: 276865
71 Gene Length: 600
73 Best Fitness: 601261
74 Best Weight: 600465
75 Time Taken: 6228ms
76
77 [INFO] Running iteration 6...
78 -----
79 Iteration 6
80 -----
81 Population: 276865
82 Gene Length: 600
84 Best Fitness: 601318
85 Best Weight: 600910
86 Time Taken: 7239ms
88 [INFO] Running iteration 7...
89 -----
90 Iteration 7
01 -----
92 Population: 276865
93 Gene Length: 600
95 Best Fitness: 601517
96 Best Weight: 600735
97 Time Taken: 7248ms
99 [INFO] Running iteration 8...
100 -----
101 Iteration 8
102 -----
103 Population: 276865
104 Gene Length: 600
106 Best Fitness: 601632
107 Best Weight: 600770
108 Time Taken: 7240ms
109
110 [INFO] Running iteration 9 ...
111 ------
```

```
112 Iteration 9
114 Population: 276865
115 Gene Length: 600
117 Best Fitness: 602010
118 Best Weight: 600914
119 Time Taken: 6220ms
120
121 [INFO] Running iteration 10...
122 -----
123 Iteration 10
124 ------
125 Population: 276865
126 Gene Length: 600
128 Best Fitness: 602113
129 Best Weight: 601128
130 Time Taken: 6220ms
131
132 [INFO] Running iteration 11...
133 -----
134 Iteration 11
135 -----
136 Population: 276865
137 Gene Length: 600
139 Best Fitness: 602628
140 Best Weight: 601247
141 Time Taken: 6249ms
142
143 [INFO] Running iteration 12...
144 -----
145 Iteration 12
146 ------
147 Population: 276865
148 Gene Length: 600
150 Best Fitness: 602984
151 Best Weight: 601439
152 Time Taken: 6222ms
153
```

```
154 [INFO] Running iteration 13...
156 Iteration 13
157 ------
158 Population: 276865
159 Gene Length: 600
161 Rest Fitness: 603340
162 Best Weight: 602067
163 Time Taken: 6209ms
164
165 [INFO] Running iteration 14...
166 ------
167 Iteration 14
168 ------
169 Population: 276865
170 Gene Length: 600
172 Best Fitness: 603342
173 Best Weight: 601575
174 Time Taken: 6235ms
175
176 [INFO] Running iteration 15...
177 -----
178 Iteration 15
179 ------
180 Population: 276865
181 Gene Length: 600
183 Best Fitness: 604079
184 Best Weight: 602290
185 Time Taken: 6250ms
186
187 [INFO] Running iteration 16...
188 ------
189 Iteration 16
190 ------
191 Population: 276865
192 Gene Length: 600
194 Best Fitness: 604433
195 Best Weight: 601901
```

```
196 Time Taken: 6214ms
198 [INFO] Running iteration 17...
199 -----
200 Iteration 17
201 -----
202 Population: 276865
203 Gene Length: 600
205 Rest Fitness: 604556
206 Best Weight: 602219
207 Time Taken: 7269ms
208
209 [INFO] Running iteration 18...
210 ------
211 Iteration 18
212 -----
213 Population: 276865
214 Gene Length: 600
216 Best Fitness: 604828
217 Best Weight: 602237
218 Time Taken: 7217ms
219
220 [INFO] Running iteration 19...
221 -----
222 Iteration 19
223 -----
224 Population: 276865
225 Gene Length: 600
227 Best Fitness: 605142
228 Best Weight: 602954
229 Time Taken: 7252ms
230
231 [INFO] Running iteration 20...
232 -----
233 Iteration 20
234 ------
235 Population: 276865
236 Gene Length: 600
```

```
238 Best Fitness: 606086
239 Best Weight: 603716
240 Time Taken: 6224ms
242 [INFO] Running iteration 21...
243 -----
244 Iteration 21
245 -----
246 Population: 276865
247 Gene Length: 600
249 Best Fitness: 606086
250 Best Weight: 603716
251 Time Taken: 6241ms
252
253 [INFO] Running iteration 22...
254 [WARNING] pMutation reset to 0.2868775979991892
255 [WARNING] pMutation reset to 0.2868775979991892
256 [WARNING] pMutation reset to 0.2868775979991892
257 [WARNING] pMutation reset to 0.2868775979991892
258 [WARNING] pMutation reset to 0.2868775979991892
259 [WARNING] pMutation reset to 0.2868775979991892
260 -----
261 Iteration 22
262 ------
263 Population: 276865
264 Gene Length: 600
266 Best Fitness: 606357
267 Best Weight: 603298
268 Time Taken: 6228ms
269
270 [INFO] Running iteration 23...
271 [WARNING] pMutation reset to 0.2
272 ------
273 Iteration 23
274 -----
275 Population: 276865
276 Gene Length: 600
278 Best Fitness: 606812
279 Best Weight: 603651
280 Time Taken: 6206ms
281
282 [INFO] Running iteration 24...
283 -----
```

```
284 Iteration 24
286 Population: 276865
287 Gene Length: 600
289 Best Fitness: 607386
290 Best Weight: 604315
291 Time Taken: 6206ms
292
293 [INFO] Running iteration 25...
294 -----
295 Iteration 25
296 ------
297 Population: 276865
298 Gene Length: 600
300 Best Fitness: 607555
301 Best Weight: 603995
302 Time Taken: 6205ms
303
304 [INFO] Running iteration 26...
305 -----
306 Iteration 26
307 ------
308 Population: 276865
309 Gene Length: 600
311 Best Fitness: 607886
312 Best Weight: 604091
313 Time Taken: 6202ms
314
315 [INFO] Running iteration 27...
316 -----
317 Iteration 27
318 ------
319 Population: 276865
320 Gene Length: 600
322 Best Fitness: 608410
323 Best Weight: 604709
324 Time Taken: 6211ms
325
```

```
326 [INFO] Running iteration 28...
328 Iteration 28
329 -----
330 Population: 276865
331 Gene Length: 600
333 Rest Fitness: 608862
334 Best Weight: 604630
335 Time Taken: 6223ms
336
337 [INFO] Running iteration 29...
338 -----
339 Iteration 29
340 -----
341 Population: 276865
342 Gene Length: 600
344 Best Fitness: 608865
345 Best Weight: 604893
346 Time Taken: 6209ms
347
348 [INFO] Running iteration 30...
349 -----
350 Iteration 30
351 ------
352 Population: 276865
353 Gene Length: 600
355 Best Fitness: 609490
356 Best Weight: 605545
357 Time Taken: 6215ms
358
359 [INFO] Running iteration 31...
360 ------
361 Iteration 31
362 ------
363 Population: 276865
364 Gene Length: 600
366 Best Fitness: 609864
367 Best Weight: 605478
```

```
368 Time Taken: 6215ms
370 [INFO] Running iteration 32...
371 -----
372 Iteration 32
373 -----
374 Population: 276865
375 Gene Length: 600
377 Rest Fitness: 610405
378 Best Weight: 605897
379 Time Taken: 6204ms
380
381 [INFO] Running iteration 33...
382 ------
383 Iteration 33
384 -----
385 Population: 276865
386 Gene Length: 600
388 Best Fitness: 610405
389 Best Weight: 605897
390 Time Taken: 6211ms
391
392 [INFO] Running iteration 34...
393 [WARNING] pMutation reset to 0.2868775979991892
394 [WARNING] pMutation reset to 0.2868775979991892
395 [WARNING] pMutation reset to 0.2868775979991892
396 [WARNING] pMutation reset to 0.2868775979991892
397 [WARNING] pMutation reset to 0.2868775979991892
398 [WARNING] pMutation reset to 0.2868775979991892
399 -----
400 Iteration 34
401 -----
402 Population: 276865
403 Gene Length: 600
405 Best Fitness: 611057
406 Best Weight: 606260
407 Time Taken: 6247ms
408
409 [INFO] Running iteration 35...
410 [WARNING] pMutation reset to 0.2
411 ------
412 Iteration 35
413 -----
```

```
414 Ponulation: 276865
415 Gene Length: 600
417 Best Fitness: 611422
418 Best Weight: 606698
419 Time Taken: 6205ms
42A
421 [INFO] Running iteration 36...
422 -----
423 Iteration 36
424 -----
425 Population: 276865
426 Gene Length: 600
428 Best Fitness: 611699
429 Best Weight: 607129
430 Time Taken: 6217ms
431
432 [INFO] Running iteration 37...
433 -----
434 Iteration 37
435 -----
436 Population: 276865
437 Gene Length: 600
439 Best Fitness: 611789
440 Best Weight: 606559
441 Time Taken: 6199ms
442
443 [INFO] Running iteration 38...
444 -----
445 Iteration 38
446 -----
447 Population: 276865
448 Gene Length: 600
450 Best Fitness: 612168
451 Best Weight: 607094
452 Time Taken: 8240ms
453
454 [INFO] Running iteration 39...
455 -----
```

```
456 Iteration 39
458 Population: 276865
459 Gene Length: 600
461 Best Fitness: 612687
462 Best Weight: 607356
463 Time Taken: 6241ms
464
465 [INFO] Running iteration 40...
466 -----
467 Iteration 40
468 -----
469 Population: 276865
470 Gene Length: 600
472 Best Fitness: 613322
473 Best Weight: 607528
474 Time Taken: 6223ms
475
476 [INFO] Running iteration 41...
477 -----
478 Iteration 41
479 -----
480 Population: 276865
481 Gene Length: 600
483 Best Fitness: 613322
484 Best Weight: 607528
485 Time Taken: 6201ms
486
487 [INFO] Running iteration 42...
488 [WARNING] pMutation reset to 0.2868775979991892
489 [WARNING] pMutation reset to 0.2868775979991892
490 [WARNING] pMutation reset to 0.2868775979991892
491 [WARNING] pMutation reset to 0.2868775979991892
492 [WARNING] pMutation reset to 0.2868775979991892
493 [WARNING] pMutation reset to 0.2868775979991892
494 -----
495 Iteration 42
496 -----
497 Population: 276865
498 Gene Length: 600
```

```
500 Best Fitness: 613581
501 Best Weight: 607929
502 Time Taken: 6213ms
504 [INFO] Running iteration 43...
505 [WARNING] pMutation reset to 0.2
506 -----
507 Iteration 43
508 -----
509 Population: 276865
510 Gene Length: 600
512 Best Fitness: 613806
513 Best Weight: 608278
514 Time Taken: 6257ms
515
516 [INFO] Running iteration 44...
517 ------
518 Iteration 44
519 ------
520 Population: 276865
521 Gene Length: 600
523 Best Fitness: 614076
524 Best Weight: 608924
525 Time Taken: 6199ms
526
527 [INFO] Running iteration 45...
528 ------
529 Iteration 45
530 ------
531 Population: 276865
532 Gene Length: 600
534 Best Fitness: 614315
535 Best Weight: 608704
536 Time Taken: 6207ms
537
538 [INFO] Running iteration 46 ...
539 -----
540 Iteration 46
541 ------
542 Population: 276865
543 Gene Length: 600
```

```
545 Best Fitness: 614447
546 Best Weight: 608611
547 Time Taken: 6210ms
548
549 [INFO] Running iteration 47...
550 -----
551 Iteration 47
552 ------
553 Population: 276865
554 Gene Length: 600
556 Best Fitness: 614577
557 Best Weight: 609203
558 Time Taken: 6209ms
559
560 [INFO] Running iteration 48...
561 -----
562 Iteration 48
563 -----
564 Population: 276865
565 Gene Length: 600
567 Best Fitness: 614967
568 Best Weight: 608782
569 Time Taken: 6196ms
570
571 [INFO] Running iteration 49...
572 -----
573 Iteration 49
574 ------
575 Population: 276865
576 Gene Length: 600
578 Best Fitness: 615092
579 Best Weight: 608857
580 Time Taken: 6193ms
581
582 [INFO] Running iteration 50...
583 ------
584 Iteration 50
585 ------
```

```
586 Ponulation: 276865
587 Gene Length: 600
589 Best Fitness: 615259
590 Best Weight: 609415
591 Time Taken: 6203ms
592
593 [INFO] Running iteration 51...
594 -----
595 Iteration 51
596 ------
597 Population: 276865
598 Gene Length: 600
600 Best Fitness: 615479
601 Best Weight: 609660
602 Time Taken: 6200ms
603
604 [INFO] Running iteration 52...
605 -----
606 Iteration 52
607 -----
608 Population: 276865
609 Gene Length: 600
611 Best Fitness: 615673
612 Best Weight: 610080
613 Time Taken: 6196ms
614
615 [INFO] Running iteration 53...
616 -----
617 Iteration 53
618 -----
619 Population: 276865
620 Gene Length: 600
622 Best Fitness: 615934
623 Best Weight: 609984
624 Time Taken: 6192ms
625
626 [INFO] Running iteration 54...
627 ------
```

```
628 Iteration 54
630 Population: 276865
631 Gene Length: 600
633 Best Fitness: 616040
634 Best Weight: 610126
635 Time Taken: 8208ms
636
637 [INFO] Running iteration 55...
638 -----
639 Iteration 55
640 -----
641 Population: 276865
642 Gene Length: 600
644 Best Fitness: 616150
645 Best Weight: 609628
646 Time Taken: 6213ms
647
648 [INFO] Running iteration 56...
649 -----
650 Iteration 56
651 ------
652 Population: 276865
653 Gene Length: 600
655 Best Fitness: 616382
656 Best Weight: 610297
657 Time Taken: 6206ms
658
659 [INFO] Running iteration 57...
660 -----
661 Iteration 57
662 ------
663 Population: 276865
664 Gene Length: 600
666 Best Fitness: 616474
667 Best Weight: 610207
668 Time Taken: 7205ms
669
```

```
670 [INFO] Running iteration 58...
672 Iteration 58
673 ------
674 Population: 276865
675 Gene Length: 600
677 Rest Fitness: 616531
678 Best Weight: 610324
679 Time Taken: 6260ms
680
681 [INFO] Running iteration 59...
682 ------
683 Iteration 59
684 -----
685 Population: 276865
686 Gene Length: 600
688 Best Fitness: 616726
689 Best Weight: 610727
690 Time Taken: 6200ms
691
692 [INFO] Running iteration 60...
693 -----
694 Iteration 60
695 ------
696 Population: 276865
697 Gene Length: 600
699 Best Fitness: 616851
700 Best Weight: 610924
701 Time Taken: 6195ms
702
703 [INFO] Running iteration 61...
704 ------
705 Iteration 61
706 ------
707 Population: 276865
708 Gene Length: 600
710 Best Fitness: 617023
711 Best Weight: 610728
```

```
712 Time Taken: 6210ms
714 [INFO] Running iteration 62...
715 -----
716 Iteration 62
717 -----
718 Population: 276865
719 Gene Length: 600
721 Rest Fitness: 617145
722 Best Weight: 611015
723 Time Taken: 6188ms
724
725 [INFO] Running iteration 63...
726 -----
727 Iteration 63
728 -----
729 Population: 276865
730 Gene Length: 600
732 Best Fitness: 617246
733 Best Weight: 611920
734 Time Taken: 7225ms
735
736 [INFO] Running iteration 64...
737 -----
738 Iteration 64
739 -----
740 Population: 276865
741 Gene Length: 600
743 Best Fitness: 617315
744 Best Weight: 611361
745 Time Taken: 6201ms
746
747 [INFO] Running iteration 65...
748 ------
749 Iteration 65
750 ------
751 Population: 276865
752 Gene Length: 600
```

```
754 Rest Fitness: 617477
755 Best Weight: 611663
756 Time Taken: 6208ms
758 [INFO] Running iteration 66...
759 -----
760 Iteration 66
761 -----
762 Population: 276865
763 Gene Length: 600
765 Best Fitness: 617529
766 Best Weight: 612259
767 Time Taken: 6227ms
768
769 [INFO] Running iteration 67...
770 -----
771 Iteration 67
772 -----
773 Population: 276865
774 Gene Length: 600
776 Best Fitness: 617767
777 Best Weight: 612101
778 Time Taken: 7208ms
779
780 [INFO] Running iteration 68...
781 -----
782 Iteration 68
783 -----
784 Population: 276865
785 Gene Length: 600
787 Best Fitness: 617767
788 Best Weight: 612101
789 Time Taken: 7232ms
790
791 [INFO] Running iteration 69...
792 [WARNING] pMutation reset to 0.2868775979991892
793 [WARNING] pMutation reset to 0.2868775979991892
794 [WARNING] pMutation reset to 0.2868775979991892
795 [WARNING] pMutation reset to 0.2868775979991892
796 [WARNING] pMutation reset to 0.2868775979991892
797 [WARNING] pMutation reset to 0.2868775979991892
798 ------
799 Iteration 69
```

```
801 Population: 276865
802 Gene Length: 600
804 Best Fitness: 617875
805 Best Weight: 612688
806 Time Taken: 7223ms
807
808 [INFO] Running iteration 70...
809 [WARNING] pMutation reset to 0.2
810 -----
811 Iteration 70
812 ------
813 Population: 276865
814 Gene Length: 600
816 Best Fitness: 617879
817 Best Weight: 612391
818 Time Taken: 7208ms
819
820 [INFO] Running iteration 71...
821 -----
822 Iteration 71
823 -----
824 Population: 276865
825 Gene Length: 600
827 Best Fitness: 617952
828 Best Weight: 612348
829 Time Taken: 6208ms
830
831 [INFO] Running iteration 72...
832 -----
833 Iteration 72
834 -----
835 Population: 276865
836 Gene Length: 600
838 Best Fitness: 618097
839 Best Weight: 612971
840 Time Taken: 6203ms
841
```

```
842 [INFO] Running iteration 73...
844 Iteration 73
845 -----
846 Population: 276865
847 Gene Length: 600
849 Rest Fitness: 618097
850 Best Weight: 612971
851 Time Taken: 7204ms
852
853 [INFO] Running iteration 74...
854 [WARNING] pMutation reset to 0.2868775979991892
855 [WARNING] pMutation reset to 0.2868775979991892
856 [WARNING] pMutation reset to 0.2868775979991892
857 [WARNING] pMutation reset to 0.2868775979991892
858 [WARNING] pMutation reset to 0.2868775979991892
859 [WARNING] pMutation reset to 0.2868775979991892
860 -----
861 Iteration 74
862 -----
863 Population: 276865
864 Gene Length: 600
866 Best Fitness: 618175
867 Best Weight: 612902
868 Time Taken: 8151ms
869
870 [INFO] Running iteration 75...
871 [WARNING] pMutation reset to 0.2
872 -----
873 Iteration 75
874 ------
875 Population: 276865
876 Gene Length: 600
878 Best Fitness: 618236
879 Best Weight: 613076
880 Time Taken: 7361ms
881
882 [INFO] Running iteration 76 ...
883 ------
884 Iteration 76
885 ------
886 Population: 276865
887 Gene Length: 600
```

```
889 Best Fitness: 618270
890 Best Weight: 613084
891 Time Taken: 7198ms
892
893 [INFO] Running iteration 77...
894 -----
895 Iteration 77
896 ------
897 Population: 276865
898 Gene Length: 600
900 Best Fitness: 618423
901 Best Weight: 613313
902 Time Taken: 6217ms
903
904 [INFO] Running iteration 78...
905 -----
906 Iteration 78
907 ------
908 Population: 276865
909 Gene Length: 600
911 Best Fitness: 618423
912 Best Weight: 613313
913 Time Taken: 7200ms
914
915 [INFO] Running iteration 79...
916 [WARNING] pMutation reset to 0.2868775979991892
917 [WARNING] pMutation reset to 0.2868775979991892
918 [WARNING] pMutation reset to 0.2868775979991892
919 [WARNING] pMutation reset to 0.2868775979991892
920 [WARNING] pMutation reset to 0.2868775979991892
921 [WARNING] pMutation reset to 0.2868775979991892
922 -----
923 Iteration 79
924 ------
925 Population: 276865
926 Gene Length: 600
928 Best Fitness: 618543
929 Best Weight: 613511
```

```
930 Time Taken: 7212ms
932 [INFO] Running iteration 80...
933 [WARNING] pMutation reset to 0.2
934 -----
935 Iteration 80
936 -----
937 Population: 276865
938 Gene Length: 600
940 Best Fitness: 618683
941 Best Weight: 614012
942 Time Taken: 7201ms
943
944 [INFO] Running iteration 81...
945 ------
946 Iteration 81
947 ------
948 Population: 276865
949 Gene Length: 600
951 Best Fitness: 618685
952 Best Weight: 613710
953 Time Taken: 7204ms
954
955 [INFO] Running iteration 82...
956 -----
957 Iteration 82
958 ------
959 Population: 276865
960 Gene Length: 600
962 Best Fitness: 618727
963 Best Weight: 613995
964 Time Taken: 6199ms
965
966 [INFO] Running iteration 83...
967 -----
968 Iteration 83
969 -----
970 Population: 276865
971 Gene Length: 600
```

```
973 Best Fitness: 618841
974 Best Weight: 614137
975 Time Taken: 7203ms
976
977 [INFO] Running iteration 84...
978 ------
979 Iteration 84
980 -----
981 Population: 276865
982 Gene Length: 600
984 Best Fitness: 618841
985 Best Weight: 614137
986 Time Taken: 6216ms
987
988 [INFO] Running iteration 85...
989 [WARNING] pMutation reset to 0.2868775979991892
990 [WARNING] pMutation reset to 0.2868775979991892
991 [WARNING] pMutation reset to 0.2868775979991892
992 [WARNING] pMutation reset to 0.2868775979991892
993 [WARNING] pMutation reset to 0.2868775979991892
994 [WARNING] pMutation reset to 0.2868775979991892
995 -----
996 Iteration 85
007 -----
998 Population: 276865
999 Gene Length: 600
1001 Best Fitness: 618952
1002 Best Weight: 614084
1003 Time Taken: 7195ms
1004
1005 [INFO] Running iteration 86...
1006 [WARNING] pMutation reset to 0.2
1007 ------
1008 Iteration 86
1009 ------
1010 Population: 276865
1011 Gene Length: 600
1013 Best Fitness: 618998
1014 Best Weight: 614600
1015 Time Taken: 7207ms
1016
1017 [INFO] Running iteration 87...
```

```
1019 Iteration 87
1020 ------
1021 Population: 276865
1022 Gene Length: 600
1024 Best Fitness: 619052
1025 Best Weight: 614426
1026 Time Taken: 6218ms
1027
1028 [INFO] Running iteration 88...
1029 -----
1030 Iteration 88
1031 -----
1032 Population: 276865
1033 Gene Length: 600
1035 Rest Fitness: 619105
1036 Best Weight: 614621
1037 Time Taken: 7200ms
1038
1039 [INFO] Running iteration 89...
1040 -----
1041 Iteration 89
1042 -----
1043 Population: 276865
1044 Gene Length: 600
1046 Best Fitness: 619215
1047 Best Weight: 614843
1048 Time Taken: 7221ms
1049
1050 [INFO] Running iteration 90 ...
1051 -----
1052 Iteration 90
1053 -----
1054 Population: 276865
1055 Gene Length: 600
1057 Best Fitness: 619215
1058 Best Weight: 614843
1059 Time Taken: 7212ms
```

```
1061 [INFO] Running iteration 91...
1062 [WARNING] pMutation reset to 0.2868775979991892
1063 [WARNING] pMutation reset to 0.2868775979991892
1064 [WARNING] pMutation reset to 0.2868775979991892
1065 [WARNING] pMutation reset to 0.2868775979991892
1066 [WARNING] pMutation reset to 0.2868775979991892
1067 [WARNING] pMutation reset to 0.2868775979991892
1068 -----
1069 Iteration 91
1070 -----
1071 Population: 276865
1072 Gene Length: 600
1074 Best Fitness: 619260
1075 Best Weight: 615116
1076 Time Taken: 7214ms
1077
1078 [INFO] Running iteration 92...
1079 [WARNING] pMutation reset to 0.2
1080 -----
1081 Iteration 92
1082 -----
1083 Population: 276865
1084 Gene Length: 600
1086 Best Fitness: 619295
1087 Best Weight: 615099
1088 Time Taken: 7200ms
1089
1090 [INFO] Running iteration 93...
1091 ------
1092 Iteration 93
1093 ------
1094 Population: 276865
1095 Gene Length: 600
1097 Best Fitness: 619310
1098 Best Weight: 615164
1099 Time Taken: 7198ms
1100
1101 [INFO] Running iteration 94 ...
1102 -----
1103 Iteration 94
1104 -----
1105 Population: 276865
```

```
1106 Gene Length: 600
1108 Best Fitness: 619333
1109 Best Weight: 615603
1110 Time Taken: 6212ms
1111
1112 [INFO] Running iteration 95...
1113 -----
1114 Iteration 95
1115 ------
1116 Population: 276865
1117 Gene Length: 600
1119 Best Fitness: 619367
1120 Best Weight: 615425
1121 Time Taken: 7206ms
1122
1123 [INFO] Running iteration 96...
1124 -----
1125 Iteration 96
1126 -----
1127 Population: 276865
1128 Gene Length: 600
1130 Best Fitness: 619406
1131 Best Weight: 615574
1132 Time Taken: 7205ms
1133
1134 [INFO] Running iteration 97...
1135 -----
1136 Iteration 97
1137 -----
1138 Population: 276865
1139 Gene Length: 600
1141 Best Fitness: 619421
1142 Best Weight: 615612
1143 Time Taken: 6205ms
1144
1145 [INFO] Running iteration 98...
1146 ------
1147 Iteration 98
```

```
1149 Population: 276865
1150 Gene Length: 600
1152 Best Fitness: 619447
1153 Best Weight: 615781
1154 Time Taken: 7211ms
1155
1156 [INFO] Running iteration 99...
1157 ------
1158 Iteration 99
1159 -----
1160 Population: 276865
1161 Gene Length: 600
1163 Rest Fitness: 619476
1164 Best Weight: 615951
1165 Time Taken: 7265ms
1166
1167 [INFO] Running iteration 100...
1168 -----
1169 Iteration 100
1170 ------
1171 Population: 276865
1172 Gene Length: 600
1174 Best Fitness: 619522
1175 Best Weight: 616120
1176 Time Taken: 7211ms
1177
1178 [INFO] Running iteration 101...
1179 -----
1180 Iteration 101
1181 -----
1182 Population: 276865
1183 Gene Length: 600
1185 Best Fitness: 619522
1186 Best Weight: 616120
1187 Time Taken: 8246ms
1188
1189 [INFO] Running iteration 102...
```

```
1190 [WARNING] nMutation reset to 0.2868775979991892
1191 [WARNING] pMutation reset to 0.2868775979991892
1192 [WARNING] pMutation reset to 0.2868775979991892
1193 [WARNING] pMutation reset to 0.2868775979991892
1194 [WARNING] pMutation reset to 0.2868775979991892
1195 [WARNING] pMutation reset to 0.2868775979991892
1196 -----
1197 Iteration 102
1198 ------
1199 Population: 276865
1200 Gene Length: 600
1202 Best Fitness: 619559
1203 Best Weight: 615671
1204 Time Taken: 7225ms
1205
1206 [INFO] Running iteration 103...
1207 [WARNING] pMutation reset to 0.2
1208 ------
1209 Iteration 103
1210 -----
1211 Population: 276865
1212 Gene Length: 600
1214 Best Fitness: 619595
1215 Best Weight: 616102
1216 Time Taken: 7219ms
1217
1218 [INFO] Running iteration 104...
1219 -----
1220 Iteration 104
1221 -----
1222 Population: 276865
1223 Gene Length: 600
1225 Best Fitness: 619628
1226 Best Weight: 616439
1227 Time Taken: 7218ms
1228
1229 [INFO] Running iteration 105...
1230 -----
1231 Iteration 105
1232 -----
1233 Population: 276865
1234 Gene Length: 600
```

```
1236 Best Fitness: 619639
1237 Best Weight: 616396
1238 Time Taken: 7203ms
1239
1240 [INFO] Running iteration 106...
1241 -----
1242 Iteration 106
1243 -----
1244 Population: 276865
1245 Gene Length: 600
1247 Best Fitness: 619655
1248 Best Weight: 616622
1249 Time Taken: 7232ms
1250
1251 [INFO] Running iteration 107...
1252 -----
1253 Iteration 107
1254 -----
1255 Population: 276865
1256 Gene Length: 600
1258 Best Fitness: 619663
1259 Best Weight: 616492
1260 Time Taken: 7207ms
1261
1262 [INFO] Running iteration 108...
1263 -----
1264 Iteration 108
1265 ------
1266 Population: 276865
1267 Gene Length: 600
1269 Best Fitness: 619692
1270 Best Weight: 616507
1271 Time Taken: 7199ms
1272
1273 [INFO] Running iteration 109...
1274 -----
1275 Iteration 109
1276 -----
1277 Population: 276865
```

```
1278 Gene Length: 600
1280 Best Fitness: 619696
1281 Best Weight: 616790
1282 Time Taken: 7207ms
1283
1284 [INFO] Running iteration 110...
1285 ------
1286 Iteration 110
1287 ------
1288 Population: 276865
1289 Gene Length: 600
1291 Best Fitness: 619725
1292 Best Weight: 616805
1293 Time Taken: 7206ms
1294
1295 [INFO] Running iteration 111...
1296 -----
1297 Iteration 111
1298 -----
1299 Population: 276865
1300 Gene Length: 600
1302 Best Fitness: 619725
1303 Best Weight: 616805
1304 Time Taken: 7198ms
1305
1306 [INFO] Running iteration 112...
1307 [WARNING] pMutation reset to 0.2868775979991892
1308 [WARNING] pMutation reset to 0.2868775979991892
1309 [WARNING] pMutation reset to 0.2868775979991892
1310 [WARNING] pMutation reset to 0.2868775979991892
1311 [WARNING] pMutation reset to 0.2868775979991892
1312 [WARNING] pMutation reset to 0.2868775979991892
1313 -----
1314 Iteration 112
1315 -----
1316 Population: 276865
1317 Gene Length: 600
1319 Best Fitness: 619738
```

```
1320 Best Weight: 616814
1321 Time Taken: 7211ms
1322
1323 [INFO] Running iteration 113...
1324 [WARNING] pMutation reset to 0.2
1325 -----
1326 Iteration 113
1327 ------
1328 Population: 276865
1329 Gene Length: 600
1331 Best Fitness: 619742
1332 Best Weight: 617056
1333 Time Taken: 7206ms
1334
1335 [INFO] Running iteration 114...
1336 -----
1337 Iteration 114
1338 -----
1339 Population: 276865
1340 Gene Length: 600
1342 Best Fitness: 619742
1343 Best Weight: 617056
1344 Time Taken: 7217ms
1345
1346 [INFO] Running iteration 115...
1347 [WARNING] pMutation reset to 0.2868775979991892
1348 [WARNING] pMutation reset to 0.2868775979991892
1349 [WARNING] pMutation reset to 0.2868775979991892
1350 [WARNING] pMutation reset to 0.2868775979991892
1351 [WARNING] pMutation reset to 0.2868775979991892
1352 [WARNING] pMutation reset to 0.2868775979991892
1353 -----
1354 Iteration 115
1355 ------
1356 Population: 276865
1357 Gene Length: 600
1359 Best Fitness: 619757
1360 Best Weight: 617423
1361 Time Taken: 7202ms
1362
1363 [INFO] Running iteration 116...
1364 [WARNING] pMutation reset to 0.2
1365 -----
```

```
1366 Iteration 116
1367 -----
1368 Population: 276865
1369 Gene Length: 600
1371 Best Fitness: 619774
1372 Best Weight: 617495
1373 Time Taken: 7228ms
1374
1375 [INFO] Running iteration 117...
1376 ------
1377 Iteration 117
1378 -----
1379 Population: 276865
1380 Gene Length: 600
1382 Best Fitness: 619774
1383 Best Weight: 617495
1384 Time Taken: 7212ms
1385
1386 [INFO] Running iteration 118...
1387 [WARNING] pMutation reset to 0.2868775979991892
1388 [WARNING] pMutation reset to 0.2868775979991892
1389 [WARNING] pMutation reset to 0.2868775979991892
1390 [WARNING] pMutation reset to 0.2868775979991892
1391 [WARNING] pMutation reset to 0.2868775979991892
1392 [WARNING] pMutation reset to 0.2868775979991892
1393 -----
1394 Iteration 118
1395 -----
1396 Population: 276865
1397 Gene Length: 600
1399 Best Fitness: 619777
1400 Best Weight: 617471
1401 Time Taken: 7298ms
1402
1403 [INFO] Running iteration 119...
1404 [WARNING] pMutation reset to 0.2
1405 -----
1406 Iteration 119
1407 ------
1408 Population: 276865
1409 Gene Length: 600
```

```
1411 Best Fitness: 619787
1412 Best Weight: 617504
1413 Time Taken: 7197ms
1414
1415 [INFO] Running iteration 120...
1416 -----
1417 Iteration 120
1418 -----
1419 Population: 276865
1420 Gene Length: 600
1422 Best Fitness: 619787
1423 Best Weight: 617504
1424 Time Taken: 7232ms
1425
1426 [INFO] Running iteration 121...
1427 [WARNING] pMutation reset to 0.2868775979991892
1428 [WARNING] pMutation reset to 0.2868775979991892
1429 [WARNING] pMutation reset to 0.2868775979991892
1430 [WARNING] pMutation reset to 0.2868775979991892
1431 [WARNING] pMutation reset to 0.2868775979991892
1432 [WARNING] pMutation reset to 0.2868775979991892
1433 -----
1434 Iteration 121
1435 -----
1436 Population: 276865
1437 Gene Length: 600
1439 Best Fitness: 619790
1440 Best Weight: 617480
1441 Time Taken: 7250ms
1442
1443 [INFO] Running iteration 122...
1444 [WARNING] pMutation reset to 0.2
1445 -----
1446 Iteration 122
1447 -----
1448 Population: 276865
1449 Gene Length: 600
1451 Best Fitness: 619790
1452 Best Weight: 617480
1453 Time Taken: 7217ms
```

```
1455 [INFO] Running iteration 123...
1456 [WARNING] pMutation reset to 0.2868775979991892
1457 [WARNING] pMutation reset to 0.2868775979991892
1458 [WARNING] pMutation reset to 0.2868775979991892
1459 [WARNING] pMutation reset to 0.2868775979991892
1460 [WARNING] pMutation reset to 0.2868775979991892
1461 [WARNING] pMutation reset to 0.2868775979991892
1462 -----
1463 Iteration 123
1464 -----
1465 Population: 276865
1466 Gene Length: 600
1468 Best Fitness: 619790
1469 Best Weight: 617480
1470 Time Taken: 7236ms
1471
1472 [INFO] Running iteration 124...
1473 [WARNING] pMutation reset to 0.5293298809650805
1474 [WARNING] pMutation reset to 0.5293298809650805
1475 [WARNING] pMutation reset to 0.5293298809650805
1476 [WARNING] pMutation reset to 0.5293298809650805
1477 [WARNING] pMutation reset to 0.5293298809650805
1478 [WARNING] pMutation reset to 0.5293298809650805
1479 -----
1480 Iteration 124
1481 -----
1482 Population: 276865
1483 Gene Length: 600
1485 Best Fitness: 619790
1486 Best Weight: 617480
1487 Time Taken: 8209ms
1488
1489 [INFO] Running iteration 125...
1490 [WARNING] pMutation reset to 0.6294923504745298
1491 [WARNING] pMutation reset to 0.6294923504745298
1492 [WARNING] pMutation reset to 0.6294923504745298
1493 [WARNING] pMutation reset to 0.6294923504745298
1494 [WARNING] pMutation reset to 0.6294923504745298
1495 [WARNING] pMutation reset to 0.6294923504745298
1496 ------
1497 Iteration 125
1498 ------
1499 Population: 276865
1500 Gene Length: 600
```

```
1502 Best Fitness: 619790
1503 Best Weight: 617480
1504 Time Taken: 8208ms
1506 [INFO] Running iteration 126...
1507 [WARNING] pMutation reset to 0.6708717104686065
1508 [WARNING] pMutation reset to 0.6708717104686065
1509 [WARNING] pMutation reset to 0.6708717104686065
1510 [WARNING] pMutation reset to 0.6708717104686065
1511 [WARNING] pMutation reset to 0.6708717104686065
1512 [WARNING] pMutation reset to 0.6708717104686065
1513 -----
1514 Iteration 126
1515 -----
1516 Population: 276865
1517 Gene Length: 600
1519 Best Fitness: 619790
1520 Best Weight: 617480
1521 Time Taken: 8223ms
1522
1523 [INFO] Running iteration 127...
1524 [WARNING] pMutation reset to 0.6879664510626157
1525 [WARNING] pMutation reset to 0.6879664510626157
1526 [WARNING] pMutation reset to 0.6879664510626157
1527 [WARNING] pMutation reset to 0.6879664510626157
1528 [WARNING] pMutation reset to 0.6879664510626157
1529 [WARNING] pMutation reset to 0.6879664510626157
1530 ------
1531 Iteration 127
1532 ------
1533 Population: 276865
1534 Gene Length: 600
1536 Best Fitness: 619790
1537 Best Weight: 617480
1538 Time Taken: 9207ms
1539
1540 [INFO] Running iteration 128...
1541 [WARNING] pMutation reset to 0.6950286713583935
1542 [WARNING] pMutation reset to 0.6950286713583935
1543 [WARNING] pMutation reset to 0.6950286713583935
1544 [WARNING] pMutation reset to 0.6950286713583935
1545 [WARNING] pMutation reset to 0.6950286713583935
1546 [WARNING] pMutation reset to 0.6950286713583935
1547 ------
1548 Iteration 128
1549 -----
```

```
1550 Population: 276865
1551 Gene Length: 600
1553 Best Fitness: 619790
1554 Best Weight: 617480
1555 Time Taken: 8205ms
1556
1557 [INFO] Running iteration 129...
1558 [WARNING] pMutation reset to 0.6979462327704441
1559 [WARNING] pMutation reset to 0.6979462327704441
1560 [WARNING] pMutation reset to 0.6979462327704441
1561 [WARNING] pMutation reset to 0.6979462327704441
1562 [WARNING] pMutation reset to 0.6979462327704441
1563 [WARNING] pMutation reset to 0.6979462327704441
1564 -----
1565 Iteration 129
1566 ------
1567 Population: 276865
1568 Gene Length: 600
1570 Best Fitness: 619792
1571 Best Weight: 617561
1572 Time Taken: 8198ms
1573
1574 [INFO] Running iteration 130...
1575 [WARNING] pMutation reset to 0.2
1576 ------
1577 Iteration 130
1578 ------
1579 Population: 276865
1580 Gene Length: 600
1582 Best Fitness: 619792
1583 Best Weight: 617561
1584 Time Taken: 7207ms
1585
1586 [INFO] Running iteration 131...
1587 [WARNING] pMutation reset to 0.2868775979991892
1588 [WARNING] pMutation reset to 0.2868775979991892
1589 [WARNING] pMutation reset to 0.2868775979991892
1590 [WARNING] pMutation reset to 0.2868775979991892
1591 [WARNING] pMutation reset to 0.2868775979991892
1592 [WARNING] pMutation reset to 0.2868775979991892
1593 -----
1594 Iteration 131
1595 -----
```

```
1596 Population: 276865
1597 Gene Length: 600
1599 Best Fitness: 619792
1600 Best Weight: 617561
1601 Time Taken: 7199ms
1602
1603 [INFO] Running iteration 132...
1604 [WARNING] pMutation reset to 0.5293298809650805
1605 [WARNING] pMutation reset to 0.5293298809650805
1606 [WARNING] pMutation reset to 0.5293298809650805
1607 [WARNING] pMutation reset to 0.5293298809650805
1608 [WARNING] pMutation reset to 0.5293298809650805
1609 [WARNING] pMutation reset to 0.5293298809650805
1610 -----
1611 Iteration 132
1612 -----
1613 Population: 276865
1614 Gene Length: 600
1616 Best Fitness: 619792
1617 Best Weight: 617561
1618 Time Taken: 8215ms
1619
1620 [INFO] Running iteration 133...
1621 [WARNING] pMutation reset to 0.6294923504745298
1622 [WARNING] pMutation reset to 0.6294923504745298
1623 [WARNING] pMutation reset to 0.6294923504745298
1624 [WARNING] pMutation reset to 0.6294923504745298
1625 [WARNING] pMutation reset to 0.6294923504745298
1626 [WARNING] pMutation reset to 0.6294923504745298
1627 ------
1628 Iteration 133
1629 ------
1630 Population: 276865
1631 Gene Length: 600
1633 Best Fitness: 619792
1634 Best Weight: 617561
1635 Time Taken: 8201ms
1636
1637 [INFO] Running iteration 134...
1638 [WARNING] pMutation reset to 0.6708717104686065
1639 [WARNING] pMutation reset to 0.6708717104686065
1640 [WARNING] pMutation reset to 0.6708717104686065
1641 [WARNING] pMutation reset to 0.6708717104686065
```

```
1642 [WARNING] pMutation reset to 0.6708717104686065
1643 [WARNING] pMutation reset to 0.6708717104686065
1644 -----
1645 Iteration 134
1646 ------
1647 Population: 276865
1648 Gene Length: 600
1650 Best Fitness: 619792
1651 Best Weight: 617561
1652 Time Taken: 9210ms
1653
1654 [INFO] Running iteration 135...
1655 [WARNING] pMutation reset to 0.6879664510626157
1656 [WARNING] pMutation reset to 0.6879664510626157
1657 [WARNING] pMutation reset to 0.6879664510626157
1658 [WARNING] pMutation reset to 0.6879664510626157
1659 [WARNING] pMutation reset to 0.6879664510626157
1660 [WARNING] pMutation reset to 0.6879664510626157
1661 -----
1662 Iteration 135
1663 -----
1664 Population: 276865
1665 Gene Length: 600
1667 Best Fitness: 619792
1668 Best Weight: 617561
1669 Time Taken: 8214ms
1670
1671 [INFO] Running iteration 136...
1672 [WARNING] pMutation reset to 0.6950286713583935
1673 [WARNING] pMutation reset to 0.6950286713583935
1674 [WARNING] pMutation reset to 0.6950286713583935
1675 [WARNING] pMutation reset to 0.6950286713583935
1676 [WARNING] pMutation reset to 0.6950286713583935
1677 [WARNING] pMutation reset to 0.6950286713583935
1678 -----
1679 Iteration 136
1680 ------
1681 Population: 276865
1682 Gene Length: 600
1684 Best Fitness: 619792
1685 Best Weight: 617561
1686 Time Taken: 8205ms
1687
```

```
1688 [INFO] Running iteration 137...
1689 [WARNING] pMutation reset to 0.6979462327704441
1690 [WARNING] pMutation reset to 0.6979462327704441
1691 [WARNING] pMutation reset to 0.6979462327704441
1692 [WARNING] pMutation reset to 0.6979462327704441
1693 [WARNING] pMutation reset to 0.6979462327704441
1694 [WARNING] pMutation reset to 0.6979462327704441
1695 -----
1696 Iteration 137
1697 ------
1698 Population: 276865
1699 Gene Length: 600
1701 Best Fitness: 619792
1702 Best Weight: 617561
1703 Time Taken: 8189ms
1704
1705 [INFO] Running iteration 138...
1706 [WARNING] pMutation reset to 0.6991515427489754
1707 [WARNING] pMutation reset to 0.6991515427489754
1708 [WARNING] pMutation reset to 0.6991515427489754
1709 [WARNING] pMutation reset to 0.6991515427489754
1710 [WARNING] pMutation reset to 0.6991515427489754
1711 [WARNING] pMutation reset to 0.6991515427489754
1712 -----
1713 Iteration 138
1714 ------
1715 Population: 276865
1716 Gene Length: 600
1718 Best Fitness: 619792
1719 Best Weight: 617561
1720 Time Taken: 8194ms
1721
1722 [INFO] Running iteration 139...
1723 [WARNING] pMutation reset to 0.6996494833024618
1724 [WARNING] pMutation reset to 0.6996494833024618
1725 [WARNING] pMutation reset to 0.6996494833024618
1726 [WARNING] pMutation reset to 0.6996494833024618
1727 [WARNING] pMutation reset to 0.6996494833024618
1728 [WARNING] pMutation reset to 0.6996494833024618
1729 -----
1730 Iteration 139
1731 -----
1732 Population: 276865
1733 Gene Length: 600
```

```
1735 Best Fitness: 619792
1736 Best Weight: 617561
1737 Time Taken: 10232ms
1738
1739 [INFO] Running iteration 140...
1740 [WARNING] pMutation reset to 0.6998551936999716
1741 [WARNING] pMutation reset to 0.6998551936999716
1742 [WARNING] pMutation reset to 0.6998551936999716
1743 [WARNING] pMutation reset to 0.6998551936999716
1744 [WARNING] pMutation reset to 0.6998551936999716
1745 [WARNING] pMutation reset to 0.6998551936999716
1746 -----
1747 Iteration 140
1748 ------
1749 Population: 276865
1750 Gene Length: 600
1752 Best Fitness: 619792
1753 Best Weight: 617561
1754 Time Taken: 9237ms
1755
1756 [INFO] Running iteration 141...
1757 [WARNING] pMutation reset to 0.6999401772735074
1758 [WARNING] pMutation reset to 0.6999401772735074
1759 [WARNING] pMutation reset to 0.6999401772735074
1760 [WARNING] pMutation reset to 0.6999401772735074
1761 [WARNING] pMutation reset to 0.6999401772735074
1762 [WARNING] pMutation reset to 0.6999401772735074
1763 -----
1764 Iteration 141
1765 ------
1766 Population: 276865
1767 Gene Length: 600
1769 Best Fitness: 619792
1770 Best Weight: 617561
1771 Time Taken: 9210ms
1772
1773 [INFO] Running iteration 142...
1774 [WARNING] pMutation reset to 0.6999752858915372
1775 [WARNING] pMutation reset to 0.6999752858915372
1776 [WARNING] pMutation reset to 0.6999752858915372
1777 [WARNING] pMutation reset to 0.6999752858915372
1778 [WARNING] pMutation reset to 0.6999752858915372
1779 [WARNING] pMutation reset to 0.6999752858915372
1780 ------
1781 Iteration 142
1782 -----
1783 Population: 276865
```

```
1784 Gene Length: 600
1786 Best Fitness: 619792
1787 Best Weight: 617561
1788 Time Taken: 9218ms
1789
1790 [INFO] Running iteration 143...
1791 [WARNING] pMutation reset to 0.6999897900481485
1792 [WARNING] pMutation reset to 0.6999897900481485
1793 [WARNING] pMutation reset to 0.6999897900481485
1794 [WARNING] pMutation reset to 0.6999897900481485
1795 [WARNING] pMutation reset to 0.6999897900481485
1796 [WARNING] pMutation reset to 0.6999897900481485
1797 -----
1798 Iteration 143
1799 ------
1800 Population: 276865
1801 Gene Length: 600
1803 Best Fitness: 619792
1804 Best Weight: 617561
1805 Time Taken: 9221ms
1806
1807 [INFO] Running iteration 144...
1808 [WARNING] pMutation reset to 0.6999957820401669
1809 [WARNING] pMutation reset to 0.6999957820401669
1810 [WARNING] pMutation reset to 0.6999957820401669
1811 [WARNING] pMutation reset to 0.6999957820401669
1812 [WARNING] pMutation reset to 0.6999957820401669
1813 [WARNING] pMutation reset to 0.6999957820401669
1814 -----
1815 Iteration 144
1816 -----
1817 Population: 276865
1818 Gene Length: 600
1820 Best Fitness: 619792
1821 Best Weight: 617561
1822 Time Taken: 9218ms
1823
1824 [INFO] Convergence is reached. Job terminated.
1825 [INFO] Program run time: 1019s
1826
1827 Process finished with exit code 0
1828
```