```
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.
  6777.52/IntelliJ IDEA.app/Contents/lib/idea_rt.jar=55789:/Users/huyang/Library/Application Support/JetBrains/Toolbox/apps/IDEA-U/ch-0/213.6777.52/IntelliJ IDEA.app/
  Contents/bin -Dfile.encoding=UTF-8 -classpath /Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/charsets.jar:/Library/Java/JavaVirtualMachines/
  jdk1.8.0_311.jdk/Contents/Home/jre/lib/deploy.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/cldrdata.jar:/Library/Java/
  JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/dnsns.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/jaccess.jar:/
  Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/jfxrt.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/
  localedata.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/nashorn.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/
  jre/lib/ext/sunec.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/sunjce_provider.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk
  /Contents/Home/jre/lib/ext/sunpkcs11.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/ext/zipfs.jar:/Library/Java/JavaVirtualMachines/jdk1.8.
  0_311.jdk/Contents/Home/jre/lib/javaws.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/jce.jar:/Library/Java/JavaVirtualMachines/jdk1.8.
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  jdk1.8.0_311.jdk/Contents/Home/jre/lib/plugin.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/resources.jar:/Library/Java/
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  huyang/.m2/repository/org/apache/hadoop/hadoop-common/3.3.3/hadoop-common-3.3.3.jar:/Users/huyang/.m2/repository/org/apache/hadoop/thirdparty/hadoop-shaded-protobuf_3_7/
  1.1.1/hadoop-shaded-protobuf_3_7-1.1.1.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-annotations/3.3.3/hadoop-annotations-3.3.3.jar:/Library/Java/
  JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/lib/tools.jar:/Users/huyang/.m2/repository/org/apache/hadoop/thirdparty/hadoop-shaded-guava/1.1.1/hadoop-shaded-guava-
  1.1.1.jar:/Users/huyang/.m2/repository/com/google/guava/guava/27.0-jre/guava-27.0-jre.jar:/Users/huyang/.m2/repository/com/google/guava/failureaccess/1.0/failureaccess-1
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  Users/huyang/.m2/repository/commons-codec/commons-codec/1.15/commons-codec-1.15.jar:/Users/huyang/.m2/repository/commons-io/commons-io/2.8.0/commons-io-2.8.0.jar:/Users/
  huyang/.m2/repository/commons-net/commons-net/3.6/commons-net-3.6.jar:/Users/huyang/.m2/repository/commons-collections/commons-collections/3.2.2/commons-collections-3.2.
  2.jar:/Users/huyang/.m2/repository/javax/servlet/javax.servlet-api/3.1.0/javax.servlet-api-3.1.0.jar:/Users/huyang/.m2/repository/jakarta/activation/jakarta.activation-
  api/1.2.1/jakarta.activation-api-1.2.1.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-server/9.4.43.v20210629/jetty-server-9.4.43.v20210629.jar:/Users/huyang/.
  m2/repository/org/eclipse/jetty/jetty-http/9.4.43.v20210629/jetty-http-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-io/9.4.43.v20210629/
  jetty-io-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-util/9.4.43.v20210629/jetty-util-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org
  /eclipse/jetty/jetty-servlet/9.4.43.v20210629/jetty-servlet-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-security/9.4.43.v20210629/jetty-
  security-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-webapp/9.4.43.v20210629/jetty-webapp-9.4.43.v20210629.jar:/Users/huyang/.m2/repository
  /org/eclipse/jetty/jetty-xml/9.4.43.v20210629/jetty-xml-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/javax/servlet/jsp/jsp-api/2.1/jsp-api-2.1.jar:/Users/huyang/.m2
  /repository/com/sun/jersey/jersey-core/1.19/jersey-core-1.19.jar:/Users/huyang/.m2/repository/javax/ws/rs/jsr311-api/1.1.1/jsr311-api-1.1.1.jar:/Users/huyang/.m2/
  repository/com/sun/jersey/jersey-servlet/1.19/jersey-servlet-1.19.jar:/Users/huyang/.m2/repository/com/sun/jersey/jersey-json/1.19/jersey-json-1.19.jar:/Users/huyang/.m2
  /repository/org/codehaus/jettison/jettison/1.1/jettison-1.1.jar:/Users/huyang/.m2/repository/com/sun/xml/bind/jaxb-impl/2.2.3-1/jaxb-impl-2.2.3-1.jar:/Users/huyang/.m2/
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  mapper-asl-1.9.2.jar:/Users/huyang/.m2/repository/org/codehaus/jackson/jackson-jaxrs/1.9.2/jackson-jaxrs-1.9.2.jar:/Users/huyang/.m2/repository/org/codehaus/jackson/
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  commons-logging/1.1.3/commons-logging-1.1.3.jar:/Users/huyang/.m2/repository/ch/qos/reload4j/reload4j/1.2.18.3/reload4j-1.2.18.3.jar:/Users/huyang/.m2/repository/commons
  -beanutils/commons-beanutils/1.9.4/commons-beanutils-1.9.4.jar:/Users/huyang/.m2/repository/org/apache/commons/commons-configuration2/2.1.1/commons-configuration2-2.1.1.
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  reload4j-1.7.36.jar:/Users/huyang/.m2/repository/org/apache/avro/avro/1.7.7/avro-1.7.7.jar:/Users/huyang/.m2/repository/com/thoughtworks/paranamer/paranamer/2.3/
  paranamer-2.3.jar:/Users/huyang/.m2/repository/com/google/re2j/re2j/1.1/re2j-1.1.jar:/Users/huyang/.m2/repository/com/google/protobuf/protobuf-java/2.5.0/protobuf-java-2
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  jar:/Users/huyang/.m2/repository/com/nimbusds/nimbus-jose-jwt/9.8.1/nimbus-jose-jwt-9.8.1.jar:/Users/huyang/.m2/repository/com/github/stephenc/jcip/jcip-annotations/1.0-
  1/jcip-annotations-1.0-1.jar:/Users/huyang/.m2/repository/net/minidev/json-smart/2.4.7/json-smart-2.4.7.jar:/Users/huyang/.m2/repository/net/minidev/accessors-smart/2.4.
  7/accessors-smart-2.4.7.jar:/Users/huyang/.m2/repository/org/ow2/asm/asm/9.1/asm-9.1.jar:/Users/huyang/.m2/repository/org/apache/curator/curator-framework/4.2.0/curator-
  framework-4.2.0.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerb-simplekdc/1.0.1/kerb-simplekdc-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerb-client
  /1.0.1/kerb-client-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerby-config/1.0.1/kerby-config-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerb-
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  kerb-util/1.0.1/kerb-util-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/token-provider/1.0.1/token-provider-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/
  kerby/kerb-admin/1.0.1/kerb-admin-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerb-server/1.0.1/kerb-server-1.0.1.jar:/Users/huyang/.m2/repository/org/apache
  /kerby/kerb-identity/1.0.1/kerb-identity-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerby-xdr/1.0.1/kerby-xdr-1.0.1.jar:/Users/huyang/.m2/repository/com/
  jcraft/jsch/0.1.55/jsch-0.1.55.jar:/Users/huyang/.m2/repository/org/apache/curator/curator-client/4.2.0/curator-client-4.2.0.jar:/Users/huyang/.m2/repository/org/apache/
  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/
  org/apache/zookeeper/zookeeper/3.5.6/zookeeper-3.5.6.jar:/Users/huyang/.m2/repository/org/apache/zookeeper/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-handler-4
```

```
 1 .1.42.Final.jar:/Users/huyang/.m2/repository/io/netty/netty-common/4.1.42.Final/netty-common-4.1.42.Final.jar:/Users/huyang/.m2/repository/io/netty/netty-buffer/4.1.42.
   Final/netty-buffer-4.1.42.Final.jar:/Users/huyang/.m2/repository/io/netty/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/
   huyang/.m2/repository/io/netty/netty-transport-native-epoll/4.1.42.Final/netty-transport-native-epoll-4.1.42.Final.jar:/Users/huyang/.m2/repository/io/netty/netty-
   transport-native-unix-common/4.1.42.Final/netty-transport-native-unix-common-4.1.42.Final.jar:/Users/huyang/.m2/repository/org/slf4j/slf4j-log4j12/1.7.25/slf4j-log4j12-1
   .7.25.jar:/Users/huyang/.m2/repository/log4j/log4j/1.2.17/log4j-1.2.17.jar:/Users/huyang/.m2/repository/org/apache/commons/commons-compress/1.21/commons-compress-1.21.
   jar:/Users/huyang/.m2/repository/org/apache/kerby/kerb-core/1.0.1/kerb-core-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerby-pkix/1.0.1/kerby-pkix-1.0.1.jar
   :/Users/huyang/.m2/repository/org/apache/kerby/kerby-asn1/1.0.1/kerby-asn1-1.0.1.jar:/Users/huyang/.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/
   jackson-annotations/2.13.2/jackson-annotations-2.13.2.jar:/Users/huyang/.m2/repository/com/fasterxml/jackson/core/jackson-core/2.13.2/jackson-core-2.13.2.jar:/Users/
   huyang/.m2/repository/org/codehaus/woodstox/stax2-api/4.2.1/stax2-api-4.2.1.jar:/Users/huyang/.m2/repository/com/fasterxml/woodstox/woodstox-core/5.3.0/woodstox-core-5.3
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   jetty-util-ajax-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/commons-daemon/commons-daemon/1.0.13/commons-daemon-1.0.13.jar:/Users/huyang/.m2/repository/io/netty/
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   -yarn-api/3.3.3/hadoop-yarn-api-3.3.3.jar:/Users/huyang/.m2/repository/org/jline/jline/3.9.0/jline-3.9.0.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-yarn-
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   2.1.1.jar:/Users/huyang/.m2/repository/com/google/inject/extensions/guice-servlet/4.0/guice-servlet-4.0.jar:/Users/huyang/.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 3 /Users/huyang/Desktop/Courses/大数据原理与技术/final_project/SimpleGeneticAlgorithm/test_input/simple.txt 50 10
 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/huyang/.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 log4j:WARN See http://logging.apache.org/log4j/1.2/faq.html#noconfig for more info.
10 [INFO] Program started.
11 [INFO] Number of Mappers: 221
12 [INFO] Number of Reducers: 3
13 [INFO] Convergence Threshold: 24
14 [WARNING] Existing files from temporary directory will be deleted: /Users/huyang/Hadoop_runtime/GeneticAlgoRuntimeTmp
15 [INFO] Generating initial population ...
16 [INFO] Finished generating initial population!
17 [INFO] Running iteration 1 ...
18 -----------------------
19 Iteration 1
20 -----------------------
21 Population: 1473
22 Gene Length: 30
23 Best Individual: 000000000000000000000000000000 |
24 Best Fitness: 0
25 Best Weight: 0
26 Time Taken: 11991ms
27
```

```
28 [INFO] Running iteration 2 ...
29 ------------------------
30 Iteration 2
31 ------------------------
32 Population: 1473
33 Gene Length: 30
34 Best Individual: 000010000000000001110000000010 |
35 Best Fitness: 225
36 Best Weight: 120
37 Time Taken: 1356ms
38
39 [INFO] Running iteration 3 ...
40 ------------------------
41 Iteration 3
42 ------------------------
43 Population: 1473
44 Gene Length: 30
45 Best Individual: 000010010100000000001101010001 |
46 Best Fitness: 355
47 Best Weight: 180
48 Time Taken: 1239ms
49
50 [INFO] Running iteration 4 ...
51 ------------------------
52 Iteration 4
53 ------------------------
54 Population: 1473
55 Gene Length: 30
56 Best Individual: 000001000101010111000100000000 |
57 Best Fitness: 455
58 Best Weight: 225
59 Time Taken: 1179ms
60
61 [INFO] Running iteration 5 ...
62 ------------------------
63 Iteration 5
64 ------------------------
65 Population: 1473
66 Gene Length: 30
67 Best Individual: 101101001010001000000000001111 |
68 Best Fitness: 495
69 Best Weight: 270
70 Time Taken: 1217ms
71
72 [INFO] Running iteration 6 ...
73 ------------------------
74 Iteration 6
75 ------------------------
76 Population: 1473
77 Gene Length: 30
78 Best Individual: 100011100001000001111001001001 |
79 Best Fitness: 560
80 Best Weight: 290
81 Time Taken: 1211ms
82
83 [INFO] Running iteration 7 ...
84 ------------------------
85 Iteration 7
```

```
 86 ------------------------
 87 Population: 1473
 88 Gene Length: 30
 89 Best Individual: 011000010110001110111101011001 |
 90 Best Fitness: 675
 91 Best Weight: 360
 92 Time Taken: 1183ms
 93
 94 [INFO] Running iteration 8 ...
 95 ------------------------
 96 Iteration 8
 97 ------------------------
 98 Population: 1473
 99 Gene Length: 30
100 Best Individual: 000111010011000001110011010011 |
101 Best Fitness: 735
102 Best Weight: 375
103 Time Taken: 1191ms
104
105 [INFO] Running iteration 9 ...
106 ------------------------
107 Iteration 9
108 ------------------------
109 Population: 1473
110 Gene Length: 30
111 Best Individual: 100110010111010011001111000001 |
112 Best Fitness: 765
113 Best Weight: 395
114 Time Taken: 1175ms
115
116 [INFO] Running iteration 10 ...
117 ------------------------
118 Iteration 10
119 ------------------------
120 Population: 1473
121 Gene Length: 30
122 Best Individual: 010010000111001111000001001111 |
123 Best Fitness: 770
124 Best Weight: 400
125 Time Taken: 1188ms
126
127 [INFO] Running iteration 11 ...
128 ------------------------
129 Iteration 11
130 ------------------------
131 Population: 1473
132 Gene Length: 30
133 Best Individual: 000111010011000001110011010111 |
134 Best Fitness: 785
135 Best Weight: 400
136 Time Taken: 1180ms
137
138 [INFO] Running iteration 12 ...
139 ------------------------
140 Iteration 12
141 ------------------------
142 Population: 1473
143 Gene Length: 30
```

```
144 Best Individual: 000111010011000001100110101111 |
145 Best Fitness: 785
146 Best Weight: 400
147 Time Taken: 1185ms
148
149 [INFO] Running iteration 13 ...
150 ------------------------
151 Iteration 13
152 ------------------------
153 Population: 1473
154 Gene Length: 30
155 Best Individual: 000111010011000001110111010011 |
156 Best Fitness: 785
157 Best Weight: 400
158 Time Taken: 1185ms
159
160 [INFO] Running iteration 14 ...
161 ------------------------
162 Iteration 14
163 ------------------------
164 Population: 1473
165 Gene Length: 30
166 Best Individual: 110011000101000101000111100111 |
167 Best Fitness: 795
168 Best Weight: 400
169 Time Taken: 1179ms
170
171 [INFO] Running iteration 15 ...
172 ------------------------
173 Iteration 15
174 ------------------------
175 Population: 1473
176 Gene Length: 30
177 Best Individual: 010111000111001101000011000101 |
178 Best Fitness: 795
179 Best Weight: 400
180 Time Taken: 1174ms
181
182 [INFO] Running iteration 16 ...
183 ------------------------
184 Iteration 16
185 ------------------------
186 Population: 1473
187 Gene Length: 30
188 Best Individual: 110011000101000101000111100111 |
189 Best Fitness: 795
190 Best Weight: 400
191 Time Taken: 1178ms
192
193 [INFO] Running iteration 17 ...
194 ------------------------
195 Iteration 17
196 ------------------------
197 Population: 1473
198 Gene Length: 30
199 Best Individual: 110011000101000101000111100111 |
200 Best Fitness: 795
201 Best Weight: 400
```

```
202 Time Taken: 1167ms
203
204 [INFO] Running iteration 18 ...
205 ------------------------
206 Iteration 18
207 ------------------------
208 Population: 1473
209 Gene Length: 30
210 Best Individual: 110101010111000101000111000101 |
211 Best Fitness: 800
212 Best Weight: 400
213 Time Taken: 1178ms
214
215 [INFO] Running iteration 19 ...
216 ------------------------
217 Iteration 19
218 ------------------------
219 Population: 1473
220 Gene Length: 30
221 Best Individual: 110101010111000101000111000101 |
222 Best Fitness: 800
223 Best Weight: 400
224 Time Taken: 1179ms
225
226 [INFO] Running iteration 20 ...
227 ------------------------
228 Iteration 20
229 ------------------------
230 Population: 1473
231 Gene Length: 30
232 Best Individual: 110101010111000101000111000101 |
233 Best Fitness: 800
234 Best Weight: 400
235 Time Taken: 1170ms
236
237 [INFO] Running iteration 21 ...
238 ------------------------
239 Iteration 21
240 ------------------------
241 Population: 1473
242 Gene Length: 30
243 Best Individual: 110101010111000101000111000101 |
244 Best Fitness: 800
245 Best Weight: 400
246 Time Taken: 1168ms
247
248 [INFO] Running iteration 22 ...
249 ------------------------
250 Iteration 22
251 ------------------------
252 Population: 1473
253 Gene Length: 30
254 Best Individual: 110101010111000101000111000101 |
255 Best Fitness: 800
256 Best Weight: 400
257 Time Taken: 1185ms
258
259 [INFO] Running iteration 23 ...
```

```
260 ------------------------
261 Iteration 23
262 ------------------------
263 Population: 1473
264 Gene Length: 30
265 Best Individual: 110101010111000101000111000101 |
266 Best Fitness: 800
267 Best Weight: 400
268 Time Taken: 1173ms
269
270 [INFO] Running iteration 24 ...
271 ------------------------
272 Iteration 24
273 ------------------------
274 Population: 1473
275 Gene Length: 30
276 Best Individual: 110101010111000101000111000101 |
277 Best Fitness: 800
278 Best Weight: 400
279 Time Taken: 1177ms
280
281 [INFO] Running iteration 25 ...
282 ------------------------
283 Iteration 25
284 ------------------------
285 Population: 1473
286 Gene Length: 30
287 Best Individual: 110101010111000101000111000101 |
288 Best Fitness: 800
289 Best Weight: 400
290 Time Taken: 1178ms
291
292 [INFO] Running iteration 26 ...
293 [WARNING] pMutation REST!!! pMutation: 0.79
294 [WARNING] pMutation REST!!! pMutation: 0.79
295 [WARNING] pMutation REST!!! pMutation: 0.79
296 ------------------------
297 Iteration 26
298 ------------------------
299 Population: 1473
300 Gene Length: 30
301 Best Individual: 110101010111000101000111000101 |
302 Best Fitness: 800
303 Best Weight: 400
304 Time Taken: 1181ms
305
306 [INFO] Running iteration 27 ...
307 ------------------------
308 Iteration 27
309 ------------------------
310 Population: 1473
311 Gene Length: 30
312 Best Individual: 110101010111000101000111000101 |
313 Best Fitness: 800
314 Best Weight: 400
315 Time Taken: 1187ms
316
317 [INFO] Running iteration 28 ...
```

```
318 ------------------------
319 Iteration 28
320 ------------------------
321 Population: 1473
322 Gene Length: 30
323 Best Individual: 110101010111000101000111000101 |
324 Best Fitness: 800
325 Best Weight: 400
326 Time Taken: 1199ms
327
328 [INFO] Running iteration 29 ...
329 ------------------------
330 Iteration 29
331 ------------------------
332 Population: 1473
333 Gene Length: 30
334 Best Individual: 100101000111000111000111000101 |
335 Best Fitness: 805
336 Best Weight: 400
337 Time Taken: 1176ms
338
339 [INFO] Running iteration 30 ...
340 [WARNING] pMutation REST!!! pMutation: 0.2
341 ------------------------
342 Iteration 30
343 ------------------------
344 Population: 1473
345 Gene Length: 30
346 Best Individual: 100101000111000111000111000101 |
347 Best Fitness: 805
348 Best Weight: 400
349 Time Taken: 1190ms
350
351 [INFO] Running iteration 31 ...
352 ------------------------
353 Iteration 31
354 ------------------------
355 Population: 1473
356 Gene Length: 30
357 Best Individual: 100101000111000111000111000101 |
358 Best Fitness: 805
359 Best Weight: 400
360 Time Taken: 1177ms
361
362 [INFO] Running iteration 32 ...
363 ------------------------
364 Iteration 32
365 ------------------------
366 Population: 1473
367 Gene Length: 30
368 Best Individual: 100101000111000111000111000101 |
369 Best Fitness: 805
370 Best Weight: 400
371 Time Taken: 1172ms
372
373 [INFO] Running iteration 33 ...
374 ------------------------
375 Iteration 33
```

```
376 ------------------------
377 Population: 1473
378 Gene Length: 30
379 Best Individual: 100101000111000111000111000101 |
380 Best Fitness: 805
381 Best Weight: 400
382 Time Taken: 1175ms
383
384 [INFO] Running iteration 34 ...
385 ------------------------
386 Iteration 34
387 ------------------------
388 Population: 1473
389 Gene Length: 30
390 Best Individual: 100101000111000111000111000101 |
391 Best Fitness: 805
392 Best Weight: 400
393 Time Taken: 1174ms
394
395 [INFO] Running iteration 35 ...
396 ------------------------
397 Iteration 35
398 ------------------------
399 Population: 1473
400 Gene Length: 30
401 Best Individual: 100101000111000111000111000101 |
402 Best Fitness: 805
403 Best Weight: 400
404 Time Taken: 1171ms
405
406 [INFO] Running iteration 36 ...
407 [WARNING] pMutation REST!!! pMutation: 0.79
408 [WARNING] pMutation REST!!! pMutation: 0.79
409 [WARNING] pMutation REST!!! pMutation: 0.79
410 ------------------------
411 Iteration 36
412 ------------------------
413 Population: 1473
414 Gene Length: 30
415 Best Individual: 100101000111000111000111000101 |
416 Best Fitness: 805
417 Best Weight: 400
418 Time Taken: 1160ms
419
420 [INFO] Running iteration 37 ...
421 ------------------------
422 Iteration 37
423 ------------------------
424 Population: 1473
425 Gene Length: 30
426 Best Individual: 100101000111000111000111000101 |
427 Best Fitness: 805
428 Best Weight: 400
429 Time Taken: 1176ms
430
431 [INFO] Running iteration 38 ...
432 ------------------------
433 Iteration 38
```

```
434 ------------------------
435 Population: 1473
436 Gene Length: 30
437 Best Individual: 100101000111000111000111000101 |
438 Best Fitness: 805
439 Best Weight: 400
440 Time Taken: 1162ms
441
442 [INFO] Running iteration 39 ...
443 ------------------------
444 Iteration 39
445 ------------------------
446 Population: 1473
447 Gene Length: 30
448 Best Individual: 100101000111000111000111000101 |
449 Best Fitness: 805
450 Best Weight: 400
451 Time Taken: 1168ms
452
453 [INFO] Running iteration 40 ...
454 ------------------------
455 Iteration 40
456 ------------------------
457 Population: 1473
458 Gene Length: 30
459 Best Individual: 100101000111000111000111000101 |
460 Best Fitness: 805
461 Best Weight: 400
462 Time Taken: 1168ms
463
464 [INFO] Running iteration 41 ...
465 [WARNING] pMutation REST!!! pMutation: 0.79
466 [WARNING] pMutation REST!!! pMutation: 0.79
467 [WARNING] pMutation REST!!! pMutation: 0.79
468 ------------------------
469 Iteration 41
470 ------------------------
471 Population: 1473
472 Gene Length: 30
473 Best Individual: 100101000111000111000111000101 |
474 Best Fitness: 805
475 Best Weight: 400
476 Time Taken: 1170ms
477
478 [INFO] Running iteration 42 ...
479 ------------------------
480 Iteration 42
481 ------------------------
482 Population: 1473
483 Gene Length: 30
484 Best Individual: 100101000111000111000111000101 |
485 Best Fitness: 805
486 Best Weight: 400
487 Time Taken: 1182ms
488
489 [INFO] Running iteration 43 ...
490 ------------------------
491 Iteration 43
```

```
492 -----------------------
493 Population: 1473
494 Gene Length: 30
495 Best Individual: 000101100111000111000111000101 |
496 Best Fitness: 805
497 Best Weight: 400
498 Time Taken: 1172ms
499
500 [INFO] Running iteration 44 ...
501 -----------------------
502 Iteration 44
503 -----------------------
504 Population: 1473
505 Gene Length: 30
506 Best Individual: 100101000101000111000111000111 |
507 Best Fitness: 805
508 Best Weight: 400
509 Time Taken: 1169ms
510
511 [INFO] Running iteration 45 ...
512 -----------------------
513 Iteration 45
514 -----------------------
515 Population: 1473
516 Gene Length: 30
517 Best Individual: 100111000101000111000111000101 |
518 Best Fitness: 805
519 Best Weight: 400
520 Time Taken: 1163ms
521
522 [INFO] Running iteration 46 ...
523 [WARNING] pMutation REST!!! pMutation: 0.79
524 [WARNING] pMutation REST!!! pMutation: 0.79
525 [WARNING] pMutation REST!!! pMutation: 0.79
526 -----------------------
527 Iteration 46
528 -----------------------
529 Population: 1473
530 Gene Length: 30
531 Best Individual: 100101000111000111000111000101 |
532 Best Fitness: 805
533 Best Weight: 400
534 Time Taken: 1171ms
535
536 [INFO] Running iteration 47 ...
537 -----------------------
538 Iteration 47
539 -----------------------
540 Population: 1473
541 Gene Length: 30
542 Best Individual: 100101000111000111000111000101 |
543 Best Fitness: 805
544 Best Weight: 400
545 Time Taken: 1179ms
546
547 [INFO] Running iteration 48 ...
548 -----------------------
549 Iteration 48
```

```
550 ------------------------
551 Population: 1473
552 Gene Length: 30
553 Best Individual: 100111000111000101000111000101 |
554 Best Fitness: 805
555 Best Weight: 400
556 Time Taken: 1178ms
557
558 [INFO] Running iteration 49 ...
559 ------------------------
560 Iteration 49
561 ------------------------
562 Population: 1473
563 Gene Length: 30
564 Best Individual: 100101000111000111000111000101 |
565 Best Fitness: 805
566 Best Weight: 400
567 Time Taken: 1168ms
568
569 [INFO] Running iteration 50 ...
570 ------------------------
571 Iteration 50
572 ------------------------
573 Population: 1473
574 Gene Length: 30
575 Best Individual: 100101000111000111000111000101 |
576 Best Fitness: 805
577 Best Weight: 400
578 Time Taken: 1162ms
579
580 [INFO] Running iteration 51 ...
581 [WARNING] pMutation REST!!! pMutation: 0.79
582 [WARNING] pMutation REST!!! pMutation: 0.79
583 [WARNING] pMutation REST!!! pMutation: 0.79
584 ------------------------
585 Iteration 51
586 ------------------------
587 Population: 1473
588 Gene Length: 30
589 Best Individual: 100101000111000111000111000101 |
590 Best Fitness: 805
591 Best Weight: 400
592 Time Taken: 1166ms
593
594 [INFO] Maximum number of iteration is reached. Job terminated.
595 [INFO] Program run time: 81s
596
597 Process finished with exit code 0
598
```