

```
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=56040:/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/ldrdata.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/sunec_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/jdk1.8.0_311.jdk/Contents/Home/jre/lib/jfr.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/jfxswt.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/jsse.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/management-agent.jar:/Library/Java/JavaVirtualMachines/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/JavaVirtualMachines/jdk1.8.0_311.jdk/Contents/Home/jre/lib/rt.jar:/Users/huyang/Desktop/Courses/大数据原理与技术/final_project/SimpleGeneticAlgorithm/target/classes:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-common/3.3.3/hadoop-common-3.3.3.jar:/Users/huyang/.m2/repository/org/apache/hadoop/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-1.0.jar:/Users/huyang/.m2/repository/com/google/guava/listenablefuture/9999.0-empty-to-avoid-conflict-with-guava/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/Users/huyang/.m2/repository/org/checkerframework/checker-qual/2.5.2/checker-qual-2.5.2.jar:/Users/huyang/.m2/repository/com/google/j2objc/j2objc-annotations/1.1/j2objc-annotations-1.1.jar:/Users/huyang/.m2/repository/org/codehaus/mojo/animal-sniffer-annotations/1.17/animal-sniffer-annotations-1.17.jar:/Users/huyang/.m2/repository/commons-cli/1.2/commons-cli-1.2.jar:/Users/huyang/.m2/repository/org/apache/commons/commons-math3/3.1.1/commons-math3-3.1.1.jar:/Users/huyang/.m2/repository/org/apache/httpcomponents/httpclient/4.5.13/httpclient-4.5.13.jar:/Users/huyang/.m2/repository/org/apache/httpcomponents/httpcore/4.4.13/httpcore-4.4.13.jar:/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/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/repository/org/codehaus/jackson/jackson-core-asl/1.9.2/jackson-core-asl-1.9.2.jar:/Users/huyang/.m2/repository/org/codehaus/jackson/jackson-mapper-asl/1.9.2/jackson-mapper-asl-1.9.2.jar:/Users/huyang/.m2/repository/org/codehaus/jackson/jaxrs/1.9.2/jackson-jaxrs-1.9.2.jar:/Users/huyang/.m2/repository/org/codehaus/jackson/jackson-xc/1.9.2/jackson-xc-1.9.2.jar:/Users/huyang/.m2/repository/com/sun/jersey/jersey-server/1.19/jersey-server-1.19.jar:/Users/huyang/.m2/repository/commons-logging/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.jar:/Users/huyang/.m2/repository/org/apache/commons/commons-lang3/3.12.0/commons-lang3-3.12.0.jar:/Users/huyang/.m2/repository/org/apache/commons/commons-text/1.4/commons-text-1.4.jar:/Users/huyang/.m2/repository/org/slf4j/slf4j-api/1.7.36/slf4j-api-1.7.36.jar:/Users/huyang/.m2/repository/org/slf4j/slf4j-reload4j/1.7.36/slf4j-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-2.5.0.jar:/Users/huyang/.m2/repository/com/google/code/gson/gson/2.8.9/gson-2.8.9.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-auth/3.3.3/hadoop-auth-3.3.3.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-common/1.0.1/kerb-common-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/kerb-crypto/1.0.1/kerb-crypto-1.0.1.jar:/Users/huyang/.m2/repository/org/apache/kerby/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
```

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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-5.3.0.jar:/Users/huyang/.m2/repository/dnsjava/dnsjava/2.1.7/dnsjava-2.1.7.jar:/Users/huyang/.m2/repository/org/xerial/snappy/snappy-java/1.1.8.2/snappy-java-1.1.8.2.jar:/Users/huyang/.m2/repository/org/apache/hadoop/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/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/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/org/fusesource/leveldbjni/leveldbjni-all/1.8/leveldbjni-all-1.8.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-mapreduce-client-core/3.3.3/hadoop-mapreduce-client-core-3.3.3.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-yarn-client/3.3.3/hadoop-yarn-client-3.3.3.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/websocket/websocket-client/9.4.43.v20210629/websocket-client-9.4.43.v20210629.jar:/Users/huyang/.m2/repository/org/eclipse/jetty/jetty-client/9.4.43.v20210629/jetty-client-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-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-common/3.3.3/hadoop-yarn-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/jersey-client/1.19/jersey-client-1.19.jar:/Users/huyang/.m2/repository/com/google/inject/guice/4.0/guice-4.0.jar:/Users/huyang/.m2/repository/javax/inject/javax.inject/1.1/javax.inject-1.jar:/Users/huyang/.m2/repository/aopalliance/aopalliance/1.0/aopalliance-1.0.jar:/Users/huyang/.m2/repository/com/sun/jersey/contribs/jersey-guice/1.19/jersey-guice-1.19.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-mapreduce-client-jaxb-annotations/2.13.2/jackson-module-jaxb-annotations-2.13.2.jar:/Users/huyang/.m2/repository/jakarta/xml/bind/jakarta.xml.bind-api/2.3.3/jakarta.xml.bind-api-2.3.3.jar:/Users/huyang/.m2/repository/com/fasterxml/jackson/jaxrs/jackson-jaxrs-json-provider/2.13.2/jackson-jaxrs-json-provider-2.13.2.jar:/Users/huyang/.m2/repository/com/fasterxml/jackson/jaxrs/jackson-jaxrs-base/2.13.2/jackson-jaxrs-base-2.13.2.jar:/Users/huyang/.m2/repository/org/apache/hadoop/hadoop-hdfs-client/3.3.3/hadoop-hdfs-client-3.3.3.jar:/Users/huyang/.m2/repository/com/squareup/okhttp/okhttp/2.7.5/okhttp-2.7.5.jar:/Users/huyang/.m2/repository/com/squareup/okio/okio/1.6.0/okio-1.6.0.jar:/Users/huyang/.m2/repository/javawebsocket/ws/rs-api/2.1.1/javawebsocket-api-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 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/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] 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

```

[illegible]

File - VeryHard

[illegible]

[illegible]

[illegible]

[illegible]

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238 Best Fitness: 606086
239 Best Weight: 603716
240 Time Taken: 6224ms
241
242 [INFO] Running iteration 21...
243 -----
244 Iteration 21
245 -----
246 Population: 276865
247 Gene Length: 600
248 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000010000010100000000100000000110011100000100010000100010000000 | 100100010001010000000001 |
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
265 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000010000010100000100000000010100000100010000110000001000101000 | 110001000001000000000011 |
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
277 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
00000100000010000001010000000110001010000000010000001000101001 | 1000000010110000000000 |
278 Best Fitness: 606812
279 Best Weight: 603651
280 Time Taken: 6206ms
281
282 [INFO] Running iteration 24...
283 -----

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284 Iteration 24
285 -----
286 Population: 276865
287 Gene Length: 600
288 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
0010010000010100000010100000011000001001000100011000001110100000 | 11000001000000000000000000 |
289 Best Fitness: 607386
290 Best Weight: 604315
291 Time Taken: 6206ms
292
293 [INF0] Running iteration 25 ...
294 -----
295 Iteration 25
296 -----
297 Population: 276865
298 Gene Length: 600
299 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000001000001000100000010000000000110000010011000011100001000 | 110101000001100010000001 |
300 Best Fitness: 607555
301 Best Weight: 603995
302 Time Taken: 6205ms
303
304 [INF0] Running iteration 26 ...
305 -----
306 Iteration 26
307 -----
308 Population: 276865
309 Gene Length: 600
310 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
00000110000101000000101000000010001110001010011000010001000000 | 100101010001010010000001 |
311 Best Fitness: 607886
312 Best Weight: 604091
313 Time Taken: 6202ms
314
315 [INF0] Running iteration 27 ...
316 -----
317 Iteration 27
318 -----
319 Population: 276865
320 Gene Length: 600
321 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
000000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000000000000000000000 |
0000011000010100000010010000000110001100000100110000011100100000 | 110000010001100010000001 |
322 Best Fitness: 608410
323 Best Weight: 604709
324 Time Taken: 6211ms
325

```

[illegible]

```

368 Time Taken: 6215ms
369
370 [INFO] Running iteration 32 ...
371 -----
372 Iteration 32
373 -----
374 Population: 276865
375 Gene Length: 600
376 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000011000010100000100100000001110011100010100110000001110101000 | 110001000000101010000101 |
377 Best 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
387 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000011000010100000100100000001110011100010100110000001110101000 | 110001000000101010000101 |
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
404 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
00000110000101000000100000001110010101000100110010111010101000 | 10010101011110001100001010000 |
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 Population: 276865
415 Gene Length: 600
416 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
000001100001110000001010000001110011100010100110000101010101000 | 110101010001110010000101 |
417 Best Fitness: 611422
418 Best Weight: 606698
419 Time Taken: 6205ms
420
421 [INFO] Running iteration 36 ...
422 -----
423 Iteration 36
424 -----
425 Population: 276865
426 Gene Length: 600
427 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00100110000101000001001000000111011110000100110000101110101000 | 110101010001110000000001 |
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
438 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
000001100001110000001010000001110010101010100110010001110101001 | 110101010101010010000101 |
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
449 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
0000011000011100100010100100011110011100110001110101001 | 10010101010100101000000 |
450 Best Fitness: 612168
451 Best Weight: 607094
452 Time Taken: 8240ms
453
454 [INFO] Running iteration 39 ...
455 -----

```

```

456 Iteration 39
457 -----
458 Population: 276865
459 Gene Length: 600
460 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00100100000111000001101000000110011101011100110010101110101000 | 110101010101101011000000 |
461 Best Fitness: 612687
462 Best Weight: 607356
463 Time Taken: 6241ms
464
465 [INF0] Running iteration 40 ...
466 -----
467 Iteration 40
468 -----
469 Population: 276865
470 Gene Length: 600
471 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    001001100001010000011010001000011001110101010011001011110101001 | 10010101010111010000101 |
472 Best Fitness: 613322
473 Best Weight: 607528
474 Time Taken: 6223ms
475
476 [INF0] Running iteration 41 ...
477 -----
478 Iteration 41
479 -----
480 Population: 276865
481 Gene Length: 600
482 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    001001100001010000011010001000011001110101010011001011110101001 | 10010101010111010000101 |
483 Best Fitness: 613322
484 Best Weight: 607528
485 Time Taken: 6201ms
486
487 [INF0] 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
499 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |
    00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000 |

```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```
754 Best Fitness: 617477
755 Best Weight: 611663
756 Time Taken: 6208ms
757
758 [INFO] Running iteration 66 ...
759 -----
760 Iteration 66
761 -----
762 Population: 276865
763 Gene Length: 600
764 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
00000000000000000000100000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
01100110000111001001111011110111101111101111011100111010111110101101 | 1101010101111111111000111 |
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
775 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
00000000000000000000100000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
00100110000111011001111011110111101101010100111010111110101101 | 1101011101111111111000111 |
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
786 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
00000000000000000000100000000000000000000000000000000000000000000000 | 000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
00100110000111011001111011110111101101010100111010111110101101 | 1101011101111111111000111 |
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
```

[illegible]

File - VeryHard

```
842 [INFO] Running iteration 73 ...  
843 -----  
844 Iteration 73  
845 -----  
846 Population: 276865  
847 Gene Length: 600  
848 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
1010011000011101100111101111011110101110011101111111101101 | 1101011101111111111101111 |  
849 Best 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  
865 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
01100110000111011101111011111011110111101011111101101 | 1101011101111111111101111 |  
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  
877 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |  
011011100101110110011110111110111110111011110101111101101 | 1101011101111111111101111 |  
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
```

[illegible]

```
930 Time Taken: 7212ms
931
932 [INFO] Running iteration 80 ...
933 [WARNING] pMutation reset to 0.2
934 -----
935 Iteration 80
936 -----
937 Population: 276865
938 Gene Length: 600
939 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
111001100101110110011111111011111111001110111111101101111110110111 | 1101011101111111111101111 |
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
950 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
111001100101110110011111111011111111101110110111110111111011111 | 1101011101111111111101111 |
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
961 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
1110111000011101100111111110111111111011101101111101111111111 | 1101011101111111111101111 |
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
972 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
1110111000011101100111111110111111111011101101111101111111111 | 1101011101111111111101111 |
```


[illegible]


```
1190 [WARNING] pMutation 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
1201 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
1111111010111110111111111111111111111111111111101111110101111 | 11110111111111111111101111 |
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
1213 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
1110111010111111111111111111111111111111111111101110111111011111 | 11110111111111111111101111 |
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
1224 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
1111111010111111101111111111111111111111111111101110111111111111 | 11110111111111111111101111 |
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
1235 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```

1550 Population: 276865
1551 Gene Length: 600
1552 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111 |
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
1569 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111 |
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
1581 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111 |
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
1598 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111 |
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
1615 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111 |
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
1632 Best Individual: 00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111 |
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

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```

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
1649 Best Individual: 00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111111111111111111 |
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
1666 Best Individual: 00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111111111111111111 |
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
1683 Best Individual: 00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
11111111111111111111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111111111111111111 |
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
1700 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
1111111111111111111111111111111111111111111111111111111 | 1111111111111111111111111111111111111111111111111111111 |
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
1717 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
1111111111111111111111111111111111111111111111111111111 | 1111111111111111111111111111111111111111111111111111111 |
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
1734 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
```

[illegible]

```

1784 Gene Length: 600
1785 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      11111111111111111111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111111111111111111 |
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
1802 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      11111111111111111111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111111111111111111 |
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
1819 Best Individual: 0000000000000000000000000000000000000000000000000000000 | 0000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      00000000000000000000000000000000000000000000000000000000000000000000 | 00000000000000000000000000000000000000000000000000000000000000000000 |
      11111111111111111111111111111111111111111111111111111111111111111111 | 11111111111111111111111111111111111111111111111111111111111111111111 |
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

```