1. Batch Execution

Batch Execution

Most layers, including this one, should behave the same no matter how the items are split between batches. We verify this:

Code from <u>BatchingTester.java:174</u> executed in 0.37 seconds (0.000 gc):

```
return test(reference, inputPrototype);
```

Logging:

```
Error execuing network component
java.lang.IllegalArgumentException: [200, 200, 3] != [500, 333, 3]
       at com.simiacryptus.mindseye.layers.cudnn.SumInputsLayer.evalAndFree(SumInput
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
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       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
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       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
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at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
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at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
at com.simiacryptus.mindseye.lang.Layer.evalAndFree(Layer.java:232)
at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
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at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
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at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
at java.util.stream.Nodes.collect(Nodes.java:325)
at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:1
at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
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at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
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at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
at java.util.stream.Nodes.collect(Nodes.java:325)
```

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at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
           at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
          at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
          at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
          at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
          at com.simiacryptus.mindseye.network.LazyResult.qet(LazyResult.java:93)
          at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
          at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
          at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
          at com.simiacryptus.mindseye.test.SimpleListEval.call(SimpleListEval.java:13%
          at com.simiacryptus.mindseye.test.SimpleListEval.run(SimpleListEval.java:98)
          at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
          at com.simiacryptus.mindseye.test.unit.BatchingTester.lambda$test$20(Batching
          at com.simiacryptus.util.test.SysOutInterceptor.withOutput(SysOutInterceptor
          at com.simiacryptus.notebook.MarkdownNotebookOutput.eval(MarkdownNotebookOutp
          at com.simiacryptus.notebook.NotebookOutput.eval(NotebookOutput.java:74)
          at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
          at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
          at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$null$15(Star
          at com.simiacryptus.notebook.MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(Mark
          at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$bigTests$16
          at java.util.stream.ForEachOps$ForEachOp$OfRef.accept(ForEachOps.java:184)
          at java.util.stream.ReferencePipeline$2$1.accept(ReferencePipeline.java:175)
          at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
          at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
          at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
          at java.util.stream.ForEachOps$ForEachOp.evaluateSequential(ForEachOps.java:1
          at java.util.stream.ForEachOps$ForEachOp$OfRef.evaluateSequential(ForEachOps
          at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:234)
          at java.util.stream.ReferencePipeline.forEach(ReferencePipeline.java:418)
          at com.simiacryptus.mindseye.test.unit.StandardLayerTests.bigTests(StandardLa
          at com.simiacryptus.mindseye.test.unit.StandardLayerTests.standardTests(StandardLayerTests.standardTests(StandardLayerTests.standardTests)
          at com.simiacryptus.mindseye.test.unit.StandardLayerTests.run(StandardLayerTe
          at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$null$6(MarkdownNot
          at com.simiacryptus.lang.TimedResult.time(TimedResult.java:91)
          at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$wrapFrontmatter$7
          at com.simiacryptus.notebook.NotebookOutput.lambda$concat$0(NotebookOutput.jambda$concat$0
          at com.simiacryptus.mindseye.test.NotebookReportBase.run(NotebookReportBase.
          at com.simiacryptus.mindseye.layers.java.LayerTestBase.test(LayerTestBase.jav
          at sun.reflect.NativeMethodAccessorImpl.invokeO(Native Method)
          at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java
          at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorIr
          at java.lang.reflect.Method.invoke(Method.java:498)
          at org.junit.runners.model.FrameworkMethod$1.runReflectiveCall(FrameworkMethod
          at org.junit.internal.runners.model.ReflectiveCallable.run(ReflectiveCallable
          at org.junit.runners.model.FrameworkMethod.invokeExplosively(FrameworkMethod
          at org.junit.internal.runners.statements.InvokeMethod.evaluate(InvokeMethod.
          at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
          at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
          at java.util.concurrent.FutureTask.run(FutureTask.java:266)
           at java.lang.Thread.run(Thread.java:748)
Error execuing network component
java.lang.RuntimeException: java.lang.IllegalArgumentException: [200, 200, 3] != [50(
          at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
          at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
          at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
          at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
          at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
           at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
          at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
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          at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
          at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
          at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
          at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
           at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
           at java.util.stream.Nodes.collect(Nodes.java:325)
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at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
at com.simiacryptus.mindseye.network.LazyResult.qet(LazyResult.java:93)
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at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
at com.simiacryp
```

...skipping 77791 bytes...

```
l(InnerNode.java:101)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 84 common frames omitted
Caused by: java.lang.RuntimeException: java.lang.IllegalArgumentException: [200, 200]
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
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       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
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       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 147 common frames omitted
Caused by: java.lang.IllegalArgumentException: [200, 200, 3] != [500, 333, 3]
       at com.simiacryptus.mindseye.layers.cudnn.SumInputsLayer.evalAndFree(SumInput
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 166 common frames omitted
Error execuing network component
java.lang.RuntimeException: java.lang.RuntimeException: java.lang.RuntimeException:
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
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       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
        at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
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at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
            at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
           at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
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           at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
           at com.simiacryptus.mindseye.test.SimpleListEval.call(SimpleListEval.java:13%
           at com.simiacryptus.mindseye.test.SimpleListEval.run(SimpleListEval.java:98)
           at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
           at com.simiacryptus.mindseye.test.unit.BatchingTester.lambda$test$20(Batching
           at com.simiacryptus.util.test.SysOutInterceptor.withOutput(SysOutInterceptor
           at com.simiacryptus.notebook.MarkdownNotebookOutput.eval(MarkdownNotebookOutp
           at com.simiacryptus.notebook.NotebookOutput.eval(NotebookOutput.java:74)
           at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
           at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
           at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$null$15(Star
           at com.simiacryptus.notebook.MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(Mark
           at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$bigTests$16
           at java.util.stream.ForEachOps$ForEachOp$OfRef.accept(ForEachOps.java:184)
            at java.util.stream.ReferencePipeline$2$1.accept(ReferencePipeline.java:175)
            at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
           at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
           at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
           at java.util.stream.ForEachOps$ForEachOp.evaluateSequential(ForEachOps.java:1
           at java.util.stream.ForEachOps$ForEachOp$OfRef.evaluateSequential(ForEachOps
           at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:234)
           at java.util.stream.ReferencePipeline.forEach(ReferencePipeline.java:418)
           at com.simiacryptus.mindseye.test.unit.StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests.bigTests(StandardLayerTests)))
           at com.simiacryptus.mindseye.test.unit.StandardLayerTests.standardTests(StandardLayerTests.standardTests(StandardLayerTests.standardTests)
           at com.simiacryptus.mindseye.test.unit.StandardLayerTests.run(StandardLayerTe
           at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$null$6(MarkdownNot
           at com.simiacryptus.lang.TimedResult.time(TimedResult.java:91)
           at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$wrapFrontmatter$7
           at com.simiacryptus.notebook.NotebookOutput.lambda$concat$0(NotebookOutput.ja
           at com.simiacryptus.mindseye.test.NotebookReportBase.run(NotebookReportBase.
           at com.simiacryptus.mindseye.layers.java.LayerTestBase.test(LayerTestBase.jav
           at sun.reflect.NativeMethodAccessorImpl.invokeO(Native Method)
           at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java
           at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorIr
           at java.lang.reflect.Method.invoke(Method.java:498)
           at org.junit.runners.model.FrameworkMethod$1.runReflectiveCall(FrameworkMethot
           at org.junit.internal.runners.model.ReflectiveCallable.run(ReflectiveCallable
           at org.junit.runners.model.FrameworkMethod.invokeExplosively(FrameworkMethod
           at org.junit.internal.runners.statements.InvokeMethod.evaluate(InvokeMethod.
           at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
           at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
            at java.util.concurrent.FutureTask.run(FutureTask.java:266)
            at java.lang.Thread.run(Thread.java:748)
Caused by: java.lang.RuntimeException: java.lang.RuntimeException: java.lang.RuntimeI
           at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
           at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
           at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
           at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
           at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
            at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
            at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
```

```
at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
        at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
        at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
        at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
        at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
        at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 65 common frames omitted
Caused by: java.lang.RuntimeException: java.lang.RuntimeException: java.lang.Illegal
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
        at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
        at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
        at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
```

```
at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
        at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.qet(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.qet(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
       at com.simiacryptus.mindseye.lang.Layer.evalAndFree(Layer.java:232)
        at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 84 common frames omitted
Caused by: java.lang.RuntimeException: java.lang.IllegalArgumentException: [200, 200]
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
        at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 147 common frames omitted
Caused by: java.lang.IllegalArgumentException: [200, 200, 3] != [500, 333, 3]
       at com.simiacryptus.mindseye.layers.cudnn.SumInputsLayer.evalAndFree(SumInput
        at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 166 common frames omitted
```

Returns:

```
java.lang.RuntimeException: java.lang.RuntimeException: java.lang.RuntimeException:
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:1
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
       at com.simiacryptus.mindseye.test.SimpleListEval.call(SimpleListEval.java:13%
```

```
at com.simiacryptus.mindseye.test.SimpleListEval.run(SimpleListEval.java:98)
                 at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
                 at com.simiacryptus.mindseye.test.unit.BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$test$20(BatchingTester.lambda$tester.lambda$test$20(BatchingTester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.lambda$tester.la
                 at com.simiacryptus.util.test.SysOutInterceptor.withOutput(SysOutInterceptor
                 at com.simiacryptus.notebook.MarkdownNotebookOutput.eval(MarkdownNotebookOutp
                 at com.simiacryptus.notebook.NotebookOutput.eval(NotebookOutput.java:74)
                 at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
                 at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
                 at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$null$15(Star
                 at com.simiacryptus.notebook.MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(Mark
                 at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$bigTests$16
                 at java.util.stream.ForEachOps$ForEachOp$OfRef.accept(ForEachOps.java:184)
                 at java.util.stream.ReferencePipeline$2$1.accept(ReferencePipeline.java:175)
                 at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
                 at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
                 at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
                 at java.util.stream.ForEachOps$ForEachOp.evaluateSequential(ForEachOps.java:1
                 at java.util.stream.ForEachOps$ForEachOp$OfRef.evaluateSequential(ForEachOps
                 at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:234)
                 at java.util.stream.ReferencePipeline.forEach(ReferencePipeline.java:418)
                 at com.simiacryptus.mindseye.test.unit.StandardLayerTests.bigTests(StandardLa
                 at com.simiacryptus.mindseye.test.unit.StandardLayerTests.standardTests(StandardLayerTests.standardTests(StandardLayerTests.standardTests)
                 at com.simiacryptus.mindseye.test.unit.StandardLayerTests.run(StandardLayerTe
                 at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$null$6(MarkdownNot
                 at com.simiacryptus.lang.TimedResult.time(TimedResult.java:91)
                 at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$wrapFrontmatter$7
                 at com.simiacryptus.notebook.NotebookOutput.lambda$concat$0(NotebookOutput.jambda$concat$0)
                 at com.simiacryptus.mindseye.test.NotebookReportBase.run(NotebookReportBase.
                 at com.simiacryptus.mindseye.layers.java.LayerTestBase.test(LayerTestBase.jav
                 at sun.reflect.NativeMethodAccessorImpl.invokeO(Native Method)
                 at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java
                 at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorIr
                 at java.lang.reflect.Method.invoke(Method.java:498)
                 at org.junit.runners.model.FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.runReflectiveCall(FrameworkMethod$1.rundFrameworkMethod$1.rundFrameworkMethod$1.rundFrameworkMethod$1.rundFrameworkMethod$1.rundFrameworkMethod$1.rundFrameworkMethod
                 at org.junit.internal.runners.model.ReflectiveCallable.run(ReflectiveCallable
                 at org.junit.runners.model.FrameworkMethod.invokeExplosively(FrameworkMethod
                 at org.junit.internal.runners.statements.InvokeMethod.evaluate(InvokeMethod.
                 at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
                 at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
                 at java.util.concurrent.FutureTask.run(FutureTask.java:266)
                 at java.lang.Thread.run(Thread.java:748)
Caused by: java.lang.RuntimeException: java.lang.RuntimeException: java.lang.RuntimeI
                 at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
                 at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
                 at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
                 at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
                 at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
                 at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
                 at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
                 at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4
                 at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
                 at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
                 at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
                 at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
                 at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
                 at java.util.stream.Nodes.collect(Nodes.java:325)
                 at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
                 at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
                 at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
                 at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
                 at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
                 at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
                  ... 65 more
Caused by: java.lang.RuntimeException: java.lang.RuntimeException: java.lang.Illegal
                 at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
                 at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
                 at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
```

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at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
        at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
        at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:1
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
       at com.simiacryptus.mindseye.lang.Layer.evalAndFree(Layer.java:232)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 84 more
Caused by: java.lang.RuntimeException: java.lang.IllegalArgumentException: [200, 200]
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
```

at java.util.stream.ReferencePipeline\$3\$1.accept(ReferencePipeline.java:193)

```
at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
        at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
       at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
       at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
       at java.util.stream.Nodes.collect(Nodes.java:325)
       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
        at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 147 more
Caused by: java.lang.IllegalArgumentException: [200, 200, 3] != [500, 333, 3]
       at com.simiacryptus.mindseye.layers.cudnn.SumInputsLayer.evalAndFree(SumInput
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 166 more
```

Code from MarkdownNotebookOutput.java:832 executed in 0.00 seconds (0.000 gc):

throw e;

Returns:

```
java.lang.RuntimeException: java.lang.RuntimeException: java.lang.RuntimeException:
            at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
            at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
            at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
            at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
            at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
            at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
            at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
            at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
            at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
            at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
            at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
            at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
            at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
            at java.util.stream.Nodes.collect(Nodes.java:325)
            at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
            at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
            at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
            at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
            at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
            at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
            at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
            at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
            at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
            at com.simiacryptus.mindseye.test.SimpleListEval.run(SimpleListEval.java:98)
            at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
            at com.simiacryptus.mindseye.test.unit.BatchingTester.lambda$test$20(Batching
            at com.simiacryptus.util.test.SysOutInterceptor.withOutput(SysOutInterceptor
            at com.simiacryptus.notebook.MarkdownNotebookOutput.eval(MarkdownNotebookOutp
            at com.simiacryptus.notebook.NotebookOutput.eval(NotebookOutput.java:74)
            at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
            at com.simiacryptus.mindseye.test.unit.BatchingTester.test(BatchingTester.jav
            at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$null$15(Star
            at com.simiacryptus.notebook.MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(MarkdownNotebookOutput.subreport(Mark
            at com.simiacryptus.mindseye.test.unit.StandardLayerTests.lambda$bigTests$16
            at java.util.stream.ForEachOps$ForEachOp$OfRef.accept(ForEachOps.java:184)
```

```
at java.util.stream.ReferencePipeline$2$1.accept(ReferencePipeline.java:175)
        at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
        at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
        at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
        at java.util.stream.ForEachOps$ForEachOp.evaluateSequential(ForEachOps.java:
        at java.util.stream.ForEachOps$ForEachOp$OfRef.evaluateSequential(ForEachOps
        at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:234)
        at java.util.stream.ReferencePipeline.forEach(ReferencePipeline.java:418)
        at com.simiacryptus.mindseye.test.unit.StandardLayerTests.biqTests(StandardLa
        at com.simiacryptus.mindseye.test.unit.StandardLayerTests.standardTests(StandardLayerTests.standardTests(StandardLayerTests.standardTests)
        at com.simiacryptus.mindseye.test.unit.StandardLayerTests.run(StandardLayerTe
        at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$null$6(MarkdownNot
        at com.simiacryptus.lang.TimedResult.time(TimedResult.java:91)
        at com.simiacryptus.notebook.MarkdownNotebookOutput.lambda$wrapFrontmatter$7
        at com.simiacryptus.notebook.NotebookOutput.lambda$concat$0(NotebookOutput.jambda$concat$0)
        at com.simiacryptus.mindseye.test.NotebookReportBase.run(NotebookReportBase.
        at com.simiacryptus.mindseye.layers.java.LayerTestBase.test(LayerTestBase.jav
        at sun.reflect.NativeMethodAccessorImpl.invokeO(Native Method)
        at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java
        at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorIr
        at java.lang.reflect.Method.invoke(Method.java:498)
        at org.junit.runners.model.FrameworkMethod$1.runReflectiveCall(FrameworkMethot
        at org.junit.internal.runners.model.ReflectiveCallable.run(ReflectiveCallable
        at org.junit.runners.model.FrameworkMethod.invokeExplosively(FrameworkMethod
        at org.junit.internal.runners.statements.InvokeMethod.evaluate(InvokeMethod.
        at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
        at org.junit.internal.runners.statements.FailOnTimeout$CallableStatement.call
        at java.util.concurrent.FutureTask.run(FutureTask.java:266)
        at java.lang.Thread.run(Thread.java:748)
Caused by: java.lang.RuntimeException: java.lang.RuntimeException: java.lang.RuntimeI
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
        at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
        at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
        at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
        at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
        at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
        at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
        at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
        at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
        at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
        at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
        at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
        at java.util.stream.Nodes.collect(Nodes.java:325)
        at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
        at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
        at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
        at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
        at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 65 more
Caused by: java.lang.RuntimeException: java.lang.RuntimeException: java.lang.Illegal
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
        at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
        at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
        at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
        at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
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        at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
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        at java.util.stream.Nodes.collect(Nodes.java:325)
        at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
        at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
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at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
        at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
       at com.simiacryptus.mindseye.network.LazyResult.qet(LazyResult.java:93)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.qet(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
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        at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
        at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4'
        at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
       at java.util.concurrent.CountedCompleter.exec(CountedCompleter.java:731)
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       at java.util.concurrent.ForkJoinTask.doInvoke(ForkJoinTask.java:401)
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       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
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        at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4"
        at java.util.stream.Nodes$SizedCollectorTask.compute(Nodes.java:1878)
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        at java.util.concurrent.ForkJoinTask.doExec(ForkJoinTask.java:289)
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       at java.util.concurrent.ForkJoinTask.invoke(ForkJoinTask.java:734)
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       at java.util.stream.ReferencePipeline.evaluateToNode(ReferencePipeline.java:
       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
       at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
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       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.DAGNetwork.eval(DAGNetwork.java:319)
       at com.simiacryptus.mindseye.lang.Layer.evalAndFree(Layer.java:232)
       at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
        ... 84 more
Caused by: java.lang.RuntimeException: java.lang.IllegalArgumentException: [200, 200]
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:106)
       at com.simiacryptus.mindseye.network.InnerNode.get(InnerNode.java:37)
       at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:37)
       at com.simiacryptus.mindseye.network.InnerNode.lambda$eval$2(InnerNode.java:
       at java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:193)
       at java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java
       at java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:481)
       at java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:4
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       at java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:540)
       at java.util.stream.AbstractPipeline.evaluateToArrayNode(AbstractPipeline.jav
        at java.util.stream.ReferencePipeline.toArray(ReferencePipeline.java:438)
```

```
at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:99)
at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
... 147 more

Caused by: java.lang.IllegalArgumentException: [200, 200, 3] != [500, 333, 3]
at com.simiacryptus.mindseye.layers.cudnn.SumInputsLayer.evalAndFree(SumInput at com.simiacryptus.mindseye.network.InnerNode.eval(InnerNode.java:101)
at com.simiacryptus.mindseye.network.LazyResult.get(LazyResult.java:93)
... 166 more
```