1. **Test environment**

|  |  |
| --- | --- |
| Hardware Information | SG2042 |
| Architecture | RISC-V64 |
| operating system | openEuler 24.03 (LTS) |
| Python Version | 3.1 2 . 2 |
| Java Version | OpenJDK 1 1.0.22 |
| javac version | 11.0.22 |
| GCC Version | 12.3.1 |
| G++ Version | 12.3.1 |
| Spark Version | 3.5.1 |
| Maven Version | 3.8.8 |
| Kernel version | 6.6.0 |
| Perf Version | 6.6.0 |

1. **Test dependency preparation**
2. Download and install the dependencies required to run the Python test case:

|  |
| --- |
| # Pull the ONNX source repository if it was not retained during installation  cd ~  git clone <https://github.com/onnx/onnx.git>  # Activate the venv virtual environment  source ~/venv/bin/activate  # pip install dependencies  pip install torch pytest parameterized |

1. Compile cpp use case:

|  |
| --- |
| # Enter ~/onnx  cd ~/onnx  # Create a build folder  mkdir build  cd build  cmake -DONNX\_BUILD\_TESTS=ON ..  make -j$(nproc) |

1. **Use case testing**
2. Python test case 1:

Execute cd ./onnx/backend/test/case/model

Run use case 1: expand

|  |
| --- |
| ./test\_runner.sh expand .py |

Operation results:

|  |
| --- |
| **Test expand passed!** |

Run use case 2: gradient

|  |
| --- |
| ./test\_runner.sh gradient.py |

Operation results:

|  |
| --- |
| **Test gradient passed!** |

Run case 3: sequence

|  |
| --- |
| ./test\_runner.sh sequence.py |

Operation results:

|  |
| --- |
| **Test sequence passed!** |

Run use case 4: shrink

|  |
| --- |
| ./test\_runner.sh shrink.py |

Operation results:

|  |
| --- |
| **Test shrink passed!** |

Run use case 5: sign

|  |
| --- |
| ./test\_runner.sh sign.py |

Operation results:

|  |
| --- |
| **Test sign passed!** |

Run case 6: single-relu

|  |
| --- |
| ./test\_runner.sh single-relu.py |

Operation results:

|  |
| --- |
| **Test single-relu passed!** |

Run case 7: stringnormalizer

|  |
| --- |
| ./test\_runner.sh stringnormalizer.py |

Operation results:

|  |
| --- |
| **Test stringnormalizer passed!** |

1. Python test case 2: onnx /onnx/backend/test/case/node/ai\_onnx\_ml/

Run the command first: cd ./onnx/backend/test/case/node/ai\_onnx\_ml/

Run case 1: array\_feature\_extractor

|  |
| --- |
| /test\_runner.sh array\_feature\_extractor .py |

Operation results:

|  |
| --- |
| **Test array\_feature\_extractor passed!** |

Run use case 2: binarizer

|  |
| --- |
| ./test\_runner.sh binarizer .py |

Operation results:

|  |
| --- |
| **Test binarizer passed!** |

Run use case 3: label\_encoder

|  |
| --- |
| ./test\_runner.sh label\_encoder .py |

Operation results:

|  |
| --- |
| **Test label\_encoder passed!** |

Run use case 4: tree\_ensemble

|  |
| --- |
| ./test\_runner.sh tree\_ensemble .py |

Operation results:

|  |
| --- |
| **Test tree\_ensemble passed!** |

1. Python test case three: onnx /onnx/backend/test/case/node/

Run command: cd ~/onnx /onnx/backend/test/case/node/

Run case 1: abs

|  |
| --- |
| ./test\_runner.sh abs .py |

Operation results:

|  |
| --- |
| **Test abs passed!** |

Run case 2: acos

|  |
| --- |
| ./test\_runner.sh acos.py |

Operation results:

|  |
| --- |
| **Test acos passed!** |

Run use case 3: acosh

|  |
| --- |
| ./test\_runner.sh acosh.py |

Operation results:

|  |
| --- |
| **Test acosh passed!** |

Run case 4: adagrad

|  |
| --- |
| ./test\_runner.sh adagrad.py |

Operation results:

|  |
| --- |
| **Test adagrad passed!** |

Run case 5: adam

|  |
| --- |
| ./test\_runner.sh adam.py |

Operation results:

|  |
| --- |
| **Test adam passed!** |

Run case 6: add

|  |
| --- |
| ./test\_runner.sh add.py |

Operation results:

|  |
| --- |
| **Test added passed!** |

Run case 7: affinegrid

|  |
| --- |
| ./test\_runner.sh affinegrid.py |

Operation results:

|  |
| --- |
| **Test affinegrid passed!** |

Run case 8: and

|  |
| --- |
| ./test\_runner.sh and.py |

Operation results:

|  |
| --- |
| **Test and passed!** |

Run case 9: argmax

|  |
| --- |
| ./test\_runner.sh argmax.py |

Operation results:

|  |
| --- |
| **Test argmax passed!** |

Run case 10: argmin

|  |
| --- |
| ./test\_runner.sh argmin.py |

Operation results:

|  |
| --- |
| **Test argmin passed!** |

Run case 11: asin

|  |
| --- |
| ./test\_runner.sh asin.py |

Operation results:

|  |
| --- |
| **Test asin passed!** |

Run case 12: asinh

|  |
| --- |
| ./test\_runner.sh asinh.py |

Operation results:

|  |
| --- |
| **Test asinh passed!** |

Run case 13: atan

|  |
| --- |
| ./test\_runner.sh atan.py |

Operation results:

|  |
| --- |
| **Test atan passed!** |

Run Example 14: atanh

|  |
| --- |
| ./test\_runner.sh atanh.py |

Operation results:

|  |
| --- |
| **Test atanh passed!** |

Run case 15: averagepool

|  |
| --- |
| ./test\_runner.sh averagepool.py |

Operation results:

|  |
| --- |
| **Test averagepool passed!** |

Run case 16: batchnorm

|  |
| --- |
| ./test\_runner.sh batchnorm.py |

Operation results:

|  |
| --- |
| **Test batchnorm passed!** |

Run case 17: bernoulli

|  |
| --- |
| ./test\_runner.sh bernoulli.py |

Operation results:

|  |
| --- |
| **Test bernoulli passed!** |

Run case 18: bitshift

|  |
| --- |
| ./test\_runner.sh bitshift.py |

Operation results:

|  |
| --- |
| **Test bitshift passed!** |

Run case 19: bitwiseand

|  |
| --- |
| ./test\_runner.sh bitwiseand.py |

Operation results:

|  |
| --- |
| **Test bitwise and passed!** |

Run case 20: bitwisenot

|  |
| --- |
| ./test\_runner.sh bitwisenot.py |

Operation results:

|  |
| --- |
| **Test bitwise not passed!** |

Run case 21: bitwiseor

|  |
| --- |
| ./test\_runner.sh bitwiseor.py |

Operation results:

|  |
| --- |
| **Test bitwiseor passed!** |

Run Example 22: bitwisexor

|  |
| --- |
| ./test\_runner.sh bitwisexor.py |

Operation results:

|  |
| --- |
| **Test bitwisexor passed!** |

Run case 23: blackmanwindow

|  |
| --- |
| ./test\_runner.sh blackmanwindow.py |

Operation results:

|  |
| --- |
| **Test blackmanwindow passed!** |

Run use case 24: cast

|  |
| --- |
| ./test\_runner.sh cast.py |

Operation results:

|  |
| --- |
| **"ModuleNotFoundError: No module named 'onnx.\_custom\_element\_types'**  **Test cast failed!** |

Run case 25: castlike

|  |
| --- |
| ./test\_runner.sh castlike.py |

Operation results:

|  |
| --- |
| **Test castlike passed!** |

Run Example 26: ceil

|  |
| --- |
| ./test\_runner.sh ceil.py |

Operation results:

|  |
| --- |
| **Test ceil passed!** |

Run case 27: celu

|  |
| --- |
| ./test\_runner.sh celu.py |

Operation results:

|  |
| --- |
| **Test celu passed!** |

Run Example 28: center\_crop\_pad

|  |
| --- |
| ./test\_runner.sh center\_crop\_pad.py |

Operation results:

|  |
| --- |
| **Test center\_crop\_pad passed!** |

Run Example 29: clip

|  |
| --- |
| ./test\_runner.sh clip.py |

Operation results:

|  |
| --- |
| **Test clip passed!** |

Run case 30: col2im

|  |
| --- |
| ./test\_runner.sh col2im.py |

Operation results:

|  |
| --- |
| **Test col2im passed!** |

Run case 31: compress

|  |
| --- |
| ./test\_runner.sh compress.py |

Operation results:

|  |
| --- |
| **Test compress passed!** |

Run case 32: concat

|  |
| --- |
| ./test\_runner.sh concat.py |

Operation results:

|  |
| --- |
| **Test concat passed!** |

Run case 33: constant

|  |
| --- |
| ./test\_runner.sh constant.py |

Operation results:

|  |
| --- |
| **Test constant passed!** |

Run case 34: constantofshape

|  |
| --- |
| ./test\_runner.sh constantofshape.py |

Operation results:

|  |
| --- |
| **Test constantofshape passed!** |

Run case 35: conv

|  |
| --- |
| ./test\_runner.sh conv.py |

Operation results:

|  |
| --- |
| **Test conv passed!** |

Run case 36: convinteger

|  |
| --- |
| ./test\_runner.sh convinteger.py |

Operation results:

|  |
| --- |
| **Test convinteger passed!** |

Run case 37: convtranspose

|  |
| --- |
| ./test\_runner.sh convtranspose.py |

Operation results:

|  |
| --- |
| **Test convtranspose passed!** |

Run case 38: cos

|  |
| --- |
| ./test\_runner.sh cos.py |

Operation results:

|  |
| --- |
| **Test cos passed!** |

Run case 39: cosh

|  |
| --- |
| ./test\_runner.sh cosh.py |

Operation results:

|  |
| --- |
| **Test cosh passed!** |

Run case 40: cumsum

|  |
| --- |
| ./test\_runner.sh cumsum.py |

Operation results:

|  |
| --- |
| **Test cumsum passed!** |

Run case 41: deformconv

|  |
| --- |
| ./test\_runner.sh deformconv.py |

Operation results:

|  |
| --- |
| **Test deformconv passed!** |

Run case 42: depthtospace

|  |
| --- |
| ./test\_runner.sh depthtospace.py |

Operation results:

|  |
| --- |
| **Test depth to space passed!** |

Run Example 43: dequantizelinear

|  |
| --- |
| ./test\_runner.sh dequantizelinear.py |

Operation results:

|  |
| --- |
| **"AttributeError: type object 'TensorProto' has no attribute 'FLOAT4E2M1'. Did you mean: 'FLOAT8E5M2'?**  **Test dequantizelinear failed!"** |

Run case 44: det

|  |
| --- |
| ./test\_runner.sh det.py |

Operation results:

|  |
| --- |
| **Test det passed!** |

Run case 45: dft

|  |
| --- |
| ./test\_runner.sh dft.py |

Operation results:

|  |
| --- |
| **Test dft passed!** |

Run case 46: div

|  |
| --- |
| ./test\_runner.sh div.py |

Operation results:

|  |
| --- |
| **Test div passed!** |

Run case 47: dropout

|  |
| --- |
| ./test\_runner.sh dropout.py |

Operation results:

|  |
| --- |
| **Test dropout passed!** |

Run Example 48: dynamicquantizelinear

|  |
| --- |
| ./test\_runner.sh dynamicquantizelinear.py |

Operation results:

|  |
| --- |
| **Test dynamicquantizelinear passed!** |

Run case 49: einsum

|  |
| --- |
| ./test\_runner.sh einsum.py |

Operation results:

|  |
| --- |
| **Test einsum passed!** |

Run case 50: elu

|  |
| --- |
| ./test\_runner.sh elu.py |

Operation results:

|  |
| --- |
| **Test elu passed!** |

Run case 51: equal

|  |
| --- |
| ./test\_runner.sh equal.py |

Operation results:

|  |
| --- |
| **Test equal passed!** |

Run case 52: erf

|  |
| --- |
| ./test\_runner.sh erf.py |

Operation results:

|  |
| --- |
| **Test erf passed!** |

Run case 53: exp

|  |
| --- |
| ./test\_runner.sh exp.py |

Operation results:

|  |
| --- |
| **Test exp passed!** |

Run case 54: expand

|  |
| --- |
| ./test\_runner.sh expand.py |

Operation results:

|  |
| --- |
| **Test expand passed!** |

Run case 55: eyelike

|  |
| --- |
| ./test\_runner.sh eyelike.py |

Operation results:

|  |
| --- |
| **Test eyelike passed!** |

Run Example 56: flatten

|  |
| --- |
| ./test\_runner.sh flatten.py |

Operation results:

|  |
| --- |
| **Test flatten passed!** |

Run case 57: floor

|  |
| --- |
| ./test\_runner.sh floor.py |

Operation results:

|  |
| --- |
| **Test floor passed!** |

Run use case 58: gather

|  |
| --- |
| ./test\_runner.sh gather.py |

Operation results:

|  |
| --- |
| **Test gather passed!** |

Run use case 59: gatherelements

|  |
| --- |
| ./test\_runner.sh gatherelements.py |

Operation results:

|  |
| --- |
| **Test gatherelements passed!** |

Run case 60: gathernd

|  |
| --- |
| ./test\_runner.sh gathernd.py |

Operation results:

|  |
| --- |
| **Test gathered and passed!** |

Run case 61: gelu

|  |
| --- |
| ./test\_runner.sh gelu.py |

Operation results:

|  |
| --- |
| **Test gelu passed!** |

Run case 62: gemm

|  |
| --- |
| ./test\_runner.sh gemm.py |

Operation results:

|  |
| --- |
| **Test gem passed!** |

Run case 63: globalaveragepool

|  |
| --- |
| ./test\_runner.sh globalaveragepool.py |

Operation results:

|  |
| --- |
| **Test globalaveragepool passed!** |

Run case 64: globalmaxpool

|  |
| --- |
| ./test\_runner.sh globalmaxpool.py |

Operation results:

|  |
| --- |
| **Test globalmaxpool passed!** |

Run case 65: greater

|  |
| --- |
| ./test\_runner.sh greater.py |

Operation results:

|  |
| --- |
| **Test greater passed!** |

Run case 66: greater\_equal

|  |
| --- |
| ./test\_runner.sh greater\_equal.py |

Operation results:

|  |
| --- |
| **Test greater\_equal passed!** |

Run case 67: gridsample

|  |
| --- |
| ./test\_runner.sh gridsample.py |

Operation results:

|  |
| --- |
| **Test gridsample passed!** |

Run Example 68: groupnormalization

|  |
| --- |
| ./test\_runner.sh groupnormalization.py |

Operation results:

|  |
| --- |
| **Test groupnormalization passed!** |

Run case 69: gru

|  |
| --- |
| ./test\_runner.sh gru.py |

Operation results:

|  |
| --- |
| **Test gru passed!** |

Run case 70: hammingwindow

|  |
| --- |
| ./test\_runner.sh hammingwindow.py |

Operation results:

|  |
| --- |
| **Test hammingwindow passed!** |

Run case 71: hannwindow

|  |
| --- |
| ./test\_runner.sh h annwindow.py |

Operation results:

|  |
| --- |
| **Test hannwindow passed!** |

Run case 72: hardmax

|  |
| --- |
| ./test\_runner.sh hardmax.py |

Operation results:

|  |
| --- |
| **Test hardmax passed!** |

Run case 73: hardsigmoid

|  |
| --- |
| ./test\_runner.sh hardsigmoid.py |

Operation results:

|  |
| --- |
| **Test hardsigmoid passed!** |

Run case 74: hardswish

|  |
| --- |
| ./test\_runner.sh hardswish.py |

Operation results:

|  |
| --- |
| **Test hardswish passed!** |

Run case 75: identity

|  |
| --- |
| ./test\_runner.sh identity.py |

Operation results:

|  |
| --- |
| **Test identity passed!** |

Run case 76: if

|  |
| --- |
| ./test\_runner.sh if.py |

Operation results:

|  |
| --- |
| **Test if passed!** |

Run Example 77: image\_decoder

|  |
| --- |
| ./test\_runner.sh image\_decoder.py |

Operation results:

|  |
| --- |
| **Test image\_decoder passed!** |

Run case 78: instancenorm

|  |
| --- |
| ./test\_runner.sh instancenorm.py |

Operation results:

|  |
| --- |
| **Test instancenorm passed!** |

Run case 79: isinf

|  |
| --- |
| ./test\_runner.sh isinf.py |

Operation results:

|  |
| --- |
| **Test isinf passed!** |

Run case 80: isnan

|  |
| --- |
| ./test\_runner.sh isnan.py |

Operation results:

|  |
| --- |
| **Test isnan passed!** |

Run case 81: layernormalization

|  |
| --- |
| ./test\_runner.sh layernormalization.py |

Operation results:

|  |
| --- |
| **Test layernormalization passed!** |

Run case 82: leakyrelu

|  |
| --- |
| ./test\_runner.sh leakyrelu.py |

Operation results:

|  |
| --- |
| **Test leakyrelu passed!** |

Run example 83: less

|  |
| --- |
| ./test\_runner.sh less.py |

Operation results:

|  |
| --- |
| **Test less passed!** |

Run case 84: less\_equal

|  |
| --- |
| ./test\_runner.sh less\_equal.py |

Operation results:

|  |
| --- |
| **Test less\_equal passed!** |

Run case 85: log

|  |
| --- |
| ./test\_runner.sh log.py |

Operation results:

|  |
| --- |
| **Test log passed!** |

Run case 86: logsoftmax

|  |
| --- |
| ./test\_runner.sh logsoftmax.py |

Operation results:

|  |
| --- |
| **Test logsoftmax passed!** |

Run case 87: loop

|  |
| --- |
| ./test\_runner.sh loop.py |

Operation results:

|  |
| --- |
| **Test loop passed!** |

Run case 88: lppool

|  |
| --- |
| ./test\_runner.sh lppool.py |

Operation results:

|  |
| --- |
| **Test lppool passed!** |

Run case 89: lrn

|  |
| --- |
| ./test\_runner.sh lrn.py |

Operation results:

|  |
| --- |
| **Test lrn passed!** |

Run case 90: lstm

|  |
| --- |
| ./test\_runner.sh lstm.py |

Operation results:

|  |
| --- |
| **Test lstm passed!** |

Run case 91: matmul

|  |
| --- |
| ./test\_runner.sh matmul.py |

Operation results:

|  |
| --- |
| **Test matmul passed!** |

Run case 92: matmulinteger

|  |
| --- |
| ./test\_runner.sh matmulinteger.py |

Operation results:

|  |
| --- |
| **Test matmulinteger passed!** |

Run case 93: max

|  |
| --- |
| ./test\_runner.sh max.py |

Operation results:

|  |
| --- |
| **Test max passed!** |

Run case 94: maxpool

|  |
| --- |
| ./test\_runner.sh maxpool.py |

Operation results:

|  |
| --- |
| **Test maxpool passed!** |

Run case 95: maxunpool

|  |
| --- |
| ./test\_runner.sh maxunpool.py |

Operation results:

|  |
| --- |
| **Test maxunpool passed!** |

Run case 96: mean

|  |
| --- |
| ./test\_runner.sh mean.py |

Operation results:

|  |
| --- |
| **Test mean passed!** |

Run case 97: meanvariancenormalization

|  |
| --- |
| ./test\_runner.sh meanvariancenormalization.py |

Operation results:

|  |
| --- |
| **Test meanvariancenormalization passed!** |

Run case 98: melweightmatrix

|  |
| --- |
| ./test\_runner.sh melweightmatrix.py |

Operation results:

|  |
| --- |
| **Test melweightmatrix passed!** |

Run case 99: min

|  |
| --- |
| ./test\_runner.sh min.py |

Operation results:

|  |
| --- |
| **Test min passed!** |

Run case 100: mish

|  |
| --- |
| ./test\_runner.sh mish.py |

Operation results:

|  |
| --- |
| **Test mish passed!** |

Running Use Case 101: mod

|  |
| --- |
| ./test\_runner.sh mod.py |

Operation results:

|  |
| --- |
| **Test mod passed!** |

Run Use Case 102: momentum

|  |
| --- |
| ./test\_runner.sh momentum.py |

Operation results:

|  |
| --- |
| **Test momentum passed!** |

Run case 103: mul

|  |
| --- |
| ./test\_runner.sh mul.py |

Operation results:

|  |
| --- |
| **Test mul passed!** |

Run case 104: neg

|  |
| --- |
| ./test\_runner.sh neg.py |

Operation results:

|  |
| --- |
| **Test neg passed!** |

Run case 105: negativeloglikelihoodloss

|  |
| --- |
| ./test\_runner.sh negativeloglikelihoodloss.py |

Operation results:

|  |
| --- |
| **Test negativeloglikelihoodloss passed!** |

Run case 106: nonmaxsuppression

|  |
| --- |
| ./test\_runner.sh nonmaxsuppression.py |

Operation results:

|  |
| --- |
| **Test nonmaxsuppression passed!** |

Run case 107: nonzero

|  |
| --- |
| ./test\_runner.sh nonzero.py |

Operation results:

|  |
| --- |
| **Test nonzero passed!** |

Run case 108: not

|  |
| --- |
| ./test\_runner.sh not.py |

Operation results:

|  |
| --- |
| **Test not passed!** |

Run case 109: onehot

|  |
| --- |
| ./test\_runner.sh onehot.py |

Operation results:

|  |
| --- |
| **Test onehot passed!** |

Run case 110: optionalgetelement

|  |
| --- |
| ./test\_runner.sh optionalgetelement.py |

Operation results:

|  |
| --- |
| **Test optionalgeelement passed!** |

Run case 111: optionalhaselement

|  |
| --- |
| ./test\_runner.sh optionalhaselement.py |

Operation results:

|  |
| --- |
| **Test optionalhaselement passed!** |

Run case 112: or

|  |
| --- |
| ./test\_runner.sh or.py |

Operation results:

|  |
| --- |
| **Test or passed!** |

Run case 113: pad

|  |
| --- |
| ./test\_runner.sh pad.py |

Operation results:

|  |
| --- |
| **Test pad passed!** |

Run case 114: pow

|  |
| --- |
| ./test\_runner.sh pow.py |

Operation results:

|  |
| --- |
| **Test pow passed!** |

Run case 115: prelu

|  |
| --- |
| ./test\_runner.sh prelu.py |

Operation results:

|  |
| --- |
| **Test prelu passed!** |

Run example 116: qlinearconv

|  |
| --- |
| ./test\_runner.sh qlinearconv.py |

Operation results:

|  |
| --- |
| **Test qlinearconv passed!** |

Run case 117: qlinearmatmul

|  |
| --- |
| ./test\_runner.sh qlinearmatmul.py |

Operation results:

|  |
| --- |
| **Test qlinearmatmul passed!** |

Run Example 118: quantizelinear

|  |
| --- |
| ./test\_runner.sh quantizelinear.py |

Operation results:

|  |
| --- |
| **"AttributeError: type object 'TensorProto' has no attribute 'FLOAT4E2M1'. Did you mean: 'FLOAT8E5M2'?**  **Test quantizelinear failed!"** |

Run case 119: rangeop

|  |
| --- |
| ./test\_runner.sh rangeop.py |

Operation results:

|  |
| --- |
| **Test rangeop passed!** |

Run case 120: reciprocal

|  |
| --- |
| ./test\_runner.sh reciprocal.py |

Operation results:

|  |
| --- |
| **Test reciprocal passed!** |

Run Example 121: reduce\_log\_sum

|  |
| --- |
| ./test\_runner.sh reduce\_log\_sum.py |

Operation results:

|  |
| --- |
| **Test reduce\_log\_sum passed!** |

Run case 122: reduce\_log\_sum\_exp

|  |
| --- |
| ./test\_runner.sh reduce\_log\_sum\_exp.py |

Operation results:

|  |
| --- |
| **Test reduce\_log\_sum\_exp passed!** |

Run use case 123: reducel1

|  |
| --- |
| ./test\_runner.sh reducel1.py |

Operation results:

|  |
| --- |
| **Test reducel1 passed!** |

Run case 124: reducel2

|  |
| --- |
| ./test\_runner.sh reducel2.py |

Operation results:

|  |
| --- |
| **Test reducel2 passed!** |

Run Example 125: reducemax

|  |
| --- |
| ./test\_runner.sh reducemax.py |

Operation results:

|  |
| --- |
| **Test reducemax passed!** |

Run case 126: reducemean

|  |
| --- |
| ./test\_runner.sh reducemean.py |

Operation results:

|  |
| --- |
| **Test reducemean passed!** |

Run case 127: reducemin

|  |
| --- |
| ./test\_runner.sh reducemin.py |

Operation results:

|  |
| --- |
| **Test reducemin passed!** |

Run case 128: reduceprod

|  |
| --- |
| ./test\_runner.sh reduceprod.py |

Operation results:

|  |
| --- |
| **Test reduceprod passed!** |

Run use case 129: reducesum

|  |
| --- |
| ./test\_runner.sh reducesum.py |

Operation results:

|  |
| --- |
| **Test reduces passed!** |

Run use case 130: reducesumsquare

|  |
| --- |
| ./test\_runner.sh reducesumsquare.py |

Operation results:

|  |
| --- |
| **Test reducesumsquare passed!** |

Run case 131: regex\_full\_match

|  |
| --- |
| ./test\_runner.sh regex\_full\_match.py |

Operation results:

|  |
| --- |
| **Test regex\_full\_match passed!** |

Run case 132: relu

|  |
| --- |
| ./test\_runner.sh relu.py |

Operation results:

|  |
| --- |
| **Test relu passed!** |

Run case 133: reshape

|  |
| --- |
| ./test\_runner.sh reshape.py |

Operation results:

|  |
| --- |
| **Test reshape passed!** |

Run case 134: resize

|  |
| --- |
| ./test\_runner.sh resize.py |

Operation results:

|  |
| --- |
| **Test resize passed!** |

Run case 135: reversesequence

|  |
| --- |
| ./test\_runner.sh reversesequence.py |

Operation results:

|  |
| --- |
| **Test reversesequence passed!** |

Run case 136: rnn

|  |
| --- |
| ./test\_runner.sh rnn.py |

Operation results:

|  |
| --- |
| **Test rnn passed!** |

Run case 137: roialign

|  |
| --- |
| ./test\_runner.sh roialign.py |

Operation results:

|  |
| --- |
| **Test roialign passed!** |

Run case 138: round

|  |
| --- |
| ./test\_runner.sh round.py |

Operation results:

|  |
| --- |
| **Test round passed!** |

Run case 139: scan

|  |
| --- |
| ./test\_runner.sh scan.py |

Operation results:

|  |
| --- |
| **Test scan passed!** |

Run case 140: scatter

|  |
| --- |
| ./test\_runner.sh scatter.py |

Operation results:

|  |
| --- |
| **Test scatter passed!** |

Run case 141: scatterelements

|  |
| --- |
| ./test\_runner.sh scatterelements.py |

Operation results:

|  |
| --- |
| **Test scatterelements passed!** |

Run case 142: scatternd

|  |
| --- |
| ./test\_runner.sh scatternd.py |

Operation results:

|  |
| --- |
| **Test scatternd passed!** |

Run case 143: selu

|  |
| --- |
| ./test\_runner.sh selu.py |

Operation results:

|  |
| --- |
| **Test selu passed!** |

Run case 144: sequence\_map

|  |
| --- |
| ./test\_runner.sh sequence\_map.py |

Operation results:

|  |
| --- |
| **Test sequence\_map passed!** |

Run case 145: sequenceinsert

|  |
| --- |
| ./test\_runner.sh sequenceinsert.py |

Operation results:

|  |
| --- |
| **Test sequenceinsert passed!** |

Run Example 146: shape

|  |
| --- |
| ./test\_runner.sh shape.py |

Operation results:

|  |
| --- |
| **Test shape passed!** |

Run use case 147: shrink

|  |
| --- |
| ./test\_runner.sh shrink.py |

Operation results:

|  |
| --- |
| **Test shrink passed!** |

Run case 148: sigmoid

|  |
| --- |
| ./test\_runner.sh sigmoid.py |

Operation results:

|  |
| --- |
| **Test sigmoid passed!** |

Run case 149: sign

|  |
| --- |
| ./test\_runner.sh sign.py |

Operation results:

|  |
| --- |
| **Test sign passed!** |

Run case 150: sin

|  |
| --- |
| ./test\_runner.sh sin.py |

Operation results:

|  |
| --- |
| **Test sin passed!** |

Run case 151: sinh

|  |
| --- |
| ./test\_runner.sh sinh.py |

Operation results:

|  |
| --- |
| **Test sinh passed!** |

Run case 152: size

|  |
| --- |
| ./test\_runner.sh size.py |

Operation results:

|  |
| --- |
| **Test size passed!** |

Run case 153: slice

|  |
| --- |
| ./test\_runner.sh slice.py |

Operation results:

|  |
| --- |
| **Test slice passed!** |

Run case 154: softmax

|  |
| --- |
| ./test\_runner.sh softmax.py |

Operation results:

|  |
| --- |
| **Test softmax passed!** |

Run case 155: softmaxcrossentropy

|  |
| --- |
| ./test\_runner.sh softmaxcrossentropy.py |

Operation results:

|  |
| --- |
| **Test softmaxcrossentropy passed!** |

Run case 156: softplus

|  |
| --- |
| ./test\_runner.sh softplus.py |

Operation results:

|  |
| --- |
| **Test softplus passed!** |

Run case 157: softsign

|  |
| --- |
| ./test\_runner.sh softsign.py |

Operation results:

|  |
| --- |
| **Test softsign passed!** |

Run case 158: spacetodepth

|  |
| --- |
| ./test\_runner.sh spacetodepth.py |

Operation results:

|  |
| --- |
| **Test space to depth passed!** |

Run case 159: split

|  |
| --- |
| ./test\_runner.sh split.py |

Operation results:

|  |
| --- |
| **Test split passed!** |

Run case 160: splittosequence

|  |
| --- |
| ./test\_runner.sh splittosequence.py |

Operation results:

|  |
| --- |
| **Test split to sequence passed!** |

Run case 161: sqrt

|  |
| --- |
| ./test\_runner.sh sqrt.py |

Operation results:

|  |
| --- |
| **Test sqrt passed!** |

Run example 162: squeeze

|  |
| --- |
| ./test\_runner.sh squeeze.py |

Operation results:

|  |
| --- |
| **Test squeeze passed!** |

Run case 163: stft

|  |
| --- |
| ./test\_runner.sh stft.py |

Operation results:

|  |
| --- |
| **Test stft passed!** |

Run Example 164: string\_concat

|  |
| --- |
| ./test\_runner.sh string\_concat.py |

Operation results:

|  |
| --- |
| **Test string\_concat passed!** |

Run Example 165: string\_split

|  |
| --- |
| ./test\_runner.sh string\_split.py |

Operation results:

|  |
| --- |
| **Test string\_split passed!** |

Run Example 166: stringnormalizer

|  |
| --- |
| ./test\_runner.sh stringnormalizer.py |

Operation results:

|  |
| --- |
| **Test stringnormalizer passed!** |

Run case 167: sub

|  |
| --- |
| ./test\_runner.sh sub.py |

Operation results:

|  |
| --- |
| **Test sub passed!** |

Run case 168: sum

|  |
| --- |
| ./test\_runner.sh sum.py |

Operation results:

|  |
| --- |
| **Test sum passed!** |

Run case 169: tan

|  |
| --- |
| ./test\_runner.sh tan.py |

Operation results:

|  |
| --- |
| **Test tan passed!** |

Run Example 170: tanh

|  |
| --- |
| ./test\_runner.sh tanh.py |

Operation results:

|  |
| --- |
| **Test tanh passed!** |

Run case 171: tfidfvectorizer

|  |
| --- |
| ./test\_runner.sh tfidfvectorizer.py |

Operation results:

|  |
| --- |
| **Test tfidfvectorizer passed!** |

Run case 172: thresholdedrelu

|  |
| --- |
| ./test\_runner.sh thresholdedrelu.py |

Operation results:

|  |
| --- |
| **Test thresholdedrelu passed!** |

Run case 173: tile

|  |
| --- |
| ./test\_runner.sh tile.py |

Operation results:

|  |
| --- |
| **Test tile passed!** |

Run case 174: topk

|  |
| --- |
| ./test\_runner.sh topk.py |

Operation results:

|  |
| --- |
| **Test topk passed!** |

Run case 175: transpose

|  |
| --- |
| ./test\_runner.sh transpose.py |

Operation results:

|  |
| --- |
| **Test transpose passed!** |

Run case 176: trilu

|  |
| --- |
| ./test\_runner.sh trilu.py |

Operation results:

|  |
| --- |
| **Test trilu passed!** |

Run case 177: unique

|  |
| --- |
| ./test\_runner.sh unique.py |

Operation results:

|  |
| --- |
| **Test unique passed!** |

1. Python test case 4: onnx/onnx/test /

First execute: cd onnx/onnx/test

Run case 1: basic\_test

|  |
| --- |
| python basic\_test.py​ |

Operation results:

|  |
| --- |
| Ran 36 tests in 0.085s  OK |

Run case 2: checker\_test

|  |
| --- |
| python checker\_test.py​ |

Operation results:

|  |
| --- |
| # ARM  Ran 41 tests in 0.029s  FAILED (failures=2)  #RISC-V  Ran 39 tests in 0.268s  FAILED (errors=1) |

Run case 3: compose\_test

|  |
| --- |
| python compose\_test .py |

Operation results:

|  |
| --- |
| # ARM  Ran 26 tests in 0.042s  OK  #RISC-V  Ran 26 tests in 0.444s  FAILED (errors=7) |

Run test case 4: data\_propagation\_test

|  |
| --- |
| python data\_propagation\_test .py |

Operation results:

|  |
| --- |
| # ARM  .......python: Segmentation fault  #RISC-V  Ran 5 tests in 0.075s  OK |

Run case 5: elu\_test

|  |
| --- |
| python elu\_test.py​ |

Operation results:

|  |
| --- |
| Ran 1 test in 0.058s  OK |

Run case 6: function\_inference\_test

|  |
| --- |
| python unction\_inference\_test .py |

Operation results:

|  |
| --- |
| Ran 3 tests in 0.021s  OK |

Run case 7: function\_test

|  |
| --- |
| python function\_test .py |

Operation results:

|  |
| --- |
| Ran 1 test in 0.164s  OK |

Run case 8: helper\_test

|  |
| --- |
| python helper\_test.py​ |

Operation results:

|  |
| --- |
| # ARM  Traceback (most recent call last):  File "/home/lurongchang/onnx/onnx/test/./helper\_test.py", line 18, in <module>  from onnx import (  ImportError: cannot import name '\_custom\_element\_types' from 'onnx' (/home/lurongchang/venv/lib64/python3.11/site-packages/onnx/\_\_init\_\_.py)  #RISC-V  Ran 87 tests in 0.475s  OK |

Run case 9: hub\_test

|  |
| --- |
| python hub\_test.py​ |

Operation results:

|  |
| --- |
| Ran 11 tests in 786.489s  OK |

Run case 10: inference\_function\_test

|  |
| --- |
| python inference\_function\_test .py |

Operation results:

|  |
| --- |
| # ARM  ERROR: test\_clip\_inference\_with\_optional\_input (\_\_main\_\_.TestInferenceFunctionCall.test\_clip\_inference\_with\_optional\_input)  ----------------------------------------------------------------------  Traceback (most recent call last):  File "/home/lurongchang/onnx/onnx/test/./inference\_function\_test.py", line 113, in test\_clip\_inference\_with\_optional\_input  \_run\_case(CLIP\_SCHEMA, input\_names, output\_names, input\_types)  File "/home/lurongchang/onnx/onnx/test/./inference\_function\_test.py", line 57, in \_run\_case  return infer\_node\_outputs(  ^^^^^^^^^^^^^^^^^^^  File "/home/lurongchang/venv/lib64/python3.11/site-packages/onnx/shape\_inference.py", line 120, in infer\_node\_outputs  passed\_input\_types = {  ^  File "/home/lurongchang/venv/lib64/python3.11/site-packages/onnx/shape\_inference.py", line 121, in <dictcomp>  key: input\_types[key].SerializeToString() for key in node.input  ~~~~~~~~~~~~^^^^^^  KeyError: ''  ----------------------------------------------------------------------  Ran 7 tests in 0.004s  FAILED (errors=1)  #RISC-V  Ran 6 tests in 0.058s  OK |

Run case 11: inliner\_test

|  |
| --- |
| python inliner\_test.py​ |

Operation results:

|  |
| --- |
| Ran 3 tests in 0.022s  OK |

Run case 12: model\_container\_refeval\_test

|  |
| --- |
| python model\_container\_refeval\_test .py |

Operation results:

|  |
| --- |
| Ran 3 tests in 0.293s  OK |

Run case 13: model\_container\_test

|  |
| --- |
| python model\_container\_test .py |

Operation results:

|  |
| --- |
| Ran 3 tests in 0.124s  OK |

Run case 14: model\_inference\_test

|  |
| --- |
| python model\_inference\_test .py |

Operation results:

|  |
| --- |
| Ran 11 tests in 0.128s  OK |

Run case 15: numpy\_helper\_test

|  |
| --- |
| python numpy\_helper\_test .py |

Operation results:

|  |
| --- |
| # ARM  Ran 132 tests in 0.170s  FAILED (errors=7)  #RISC-V  Ran 22 tests in 0.120s  OK |

Run case 16: parser\_test

|  |
| --- |
| python parser\_test.py​ |

Operation results:

|  |
| --- |
| # ARM  Traceback (most recent call last):  File "/home/lurongchang/onnx/onnx/test/./parser\_test.py", line 14, in <module>  class TestBasicFunctions(unittest.TestCase):  File "/home/lurongchang/onnx/onnx/test/./parser\_test.py", line 295, in TestBasicFunctions  ("float4e2m1", TensorProto.FLOAT4E2M1),  ^^^^^^^^^^^^^^^^^^^^^^  AttributeError: FLOAT4E2M1. Did you mean: 'FLOAT8E5M2'?  #RISC-V  Ran 1 test in 0.010s  OK |

Run case 17: printer\_test

|  |
| --- |
| python printer\_test .py |

Operation results:

|  |
| --- |
| # ARM  Ran 1 test in 0.001s  OK  #RISC-V  Ran 59 tests in 1.258s  OK |

Run case 18: reference\_evaluator\_ml\_test

|  |
| --- |
| python r eference\_evaluator\_ml\_test .py |

Operation results:

|  |
| --- |
| # ARM  Ran 59 tests in 0.168s  OK  #RISC-V  Ran 1 test in 0.235s  OK |

Run case 19: reference\_evaluator\_model\_test

|  |
| --- |
| python reference\_evaluator\_model\_test .py |

Operation results:

|  |
| --- |
| Ran 1 test in 0.232s  OK |

Run test case 20: reference\_evaluator\_test

|  |
| --- |
| python reference\_evaluator\_testt.py​ |

Operation results:

|  |
| --- |
| # ARM  Traceback (most recent call last):  File "/home/lurongchang/onnx/onnx/test/./reference\_evaluator\_test.py", line 31, in <module>  import onnx.\_custom\_element\_types as custom  ModuleNotFoundError: No module named 'onnx.\_custom\_element\_types'  #RISC-V  Ran 184 tests in 3.411s |

Run case 21: relu\_test

|  |
| --- |
| python relu\_test .py |

Operation results:

|  |
| --- |
| Ran 1 test in 0.057s  OK |

Run case 22: schema\_test

|  |
| --- |
| python schema\_test.py​ |

Operation results:

|  |
| --- |
| Ran 32 tests in 0.160s  OK |

Run case 23: serialization\_test

|  |
| --- |
| python serialization\_test.py​ |

Operation results:

|  |
| --- |
| [No output information] |

Run Example 24: shape\_inference\_test

|  |
| --- |
| python shape\_inference\_test .py |

Operation results:

|  |
| --- |
| # ARM  test\_issue\_conv\_6180 (\_\_main\_\_.TestShapeInference.test\_issue\_conv\_6180) ... python: Segmentation fault  #RISC-V  Ran 683 tests in 9.986s |

Run test case 25: symbolic\_shape\_test

|  |
| --- |
| python symbolic\_shape\_test .py |

Operation results:

|  |
| --- |
| Ran 4 tests in 0.097s  OK |

Run case 26: test\_backend\_onnxruntime

|  |
| --- |
| python test\_backend\_onnxruntime .py |

Operation results:

|  |
| --- |
| # ARM  Ran 2862 tests in 33.474s  OK (skipped=1951)  #RISC-V  Ran 2874 tests in 59.842s  FAILED (failures=57, errors=210, skipped=1709) |

Run test case 27: test\_backend\_reference

|  |
| --- |
| python test\_backend\_reference .py |

Operation results:

|  |
| --- |
| # ARM  Ran 2862 tests in 17.754s  FAILED (errors=3, skipped=1513)  ---------------------------------  tests\_run=2862 errors=3 skipped=1513 unexpected\_successes=0 expected\_failures=0  #RISC-V  FAILED (failures=3, errors=12, skipped=1519)  ---------------------------------  tests\_run=2874 errors=12 skipped=1519 unexpected\_successes=0 expected\_failures=0 |

Run test case 28: test\_backend\_test

|  |
| --- |
| python test\_backend\_test .py |

Operation results:

|  |
| --- |
| # ARM  Ran 2862 tests in 0.712s  OK (skipped=1432)  #RISC-V  Ran 2874 tests in 60.128s  FAILED (failures=57, errors=210, skipped=1709) |

Run case 29: test\_external\_data

|  |
| --- |
| python test\_external\_data.py​ |

Operation results:

|  |
| --- |
| # ARM  Ran 67 tests in 0.156s  FAILED (failures=1, skipped=5)  #RISC-V  Ran 65 tests in 0.911s  OK (skipped=5) |

Run test case 30: test\_with\_ort

|  |
| --- |
| python test\_with\_ort.py​ |

Operation results:

|  |
| --- |
| Ran 1 test in 1.036s  OK |

Run case 31: tools\_test

|  |
| --- |
| python tools\_test.py​ |

Operation results:

|  |
| --- |
| Ran 8 tests in 0.401s  OK |

Run case 32: training\_tool\_test

|  |
| --- |
| python training\_tool\_test .py |

Operation results:

|  |
| --- |
| Ran 1 test in 0.06s  OK |

Run test case 33: utils\_test

|  |
| --- |
| python utils\_test.py​ |

Operation results:

|  |
| --- |
| Ran 1 test in 0.079s  OK |

use case 34: version\_converter\_test

|  |
| --- |
| python version\_converter\_tes .py |

Operation results:

|  |
| --- |
| # ARM  Ran 87 tests in 0.470s  OK  #RISC-V  Ran 86 tests in 2.339s  OK |

Run case 35: version\_utils

|  |
| --- |
| python version\_utils.py​ |

Operation results:

|  |
| --- |
| [No output information] |

1. **Perf performance analysis**

perf\_onnxtest.sh

Used to execute onnx/onnx/backend/test/case / model , … /case/node/ai\_onnx\_ml , … /case/ node and all .py files in the onnx/onnx/test directories, and execute the perf command at the same time to obtain performance data, print it to the screen, and count the number of successful, failed, and skipped execution files.

**The script can have parameters** :

- When there is no parameter, execute all py examples

- With parameters, you can specify the test cases to be skipped. For example, you can use the following command:

|  |
| --- |
| // Skip a.py and b.py  bash path/perf\_test.sh a.py b.py |

**Use Cases** :

1. Enter the test case folder, for example, the folder ` onnx/onnx/backend/test/case / model `

|  |
| --- |
| cd onnx/onnx/backend/test/cas e /model |

2. Execute the script

|  |
| --- |
| sudo -E bash path/perf\_onnxtest.sh |

3. Output

|  |
| --- |
| **-----------------------------------------------------**  **Executing ./expand.py...**  **-----------------------------------------------------**  **Test expand passed!**  **------------------perf information--------------------**  **1239319259**  **17544.130**  **35083307652**  **20813504925**  **431414536**  **431418176**  **1915554869**  **29955473**  **5688093610**  **17256096**  **10174031**  **431433453**  **0.593**  **Finished executing ./expand.py.**  **-----------------------------------------------------**  **Executing ./gradient.py...**  **-----------------------------------------------------**  **Test gradient passed!**  **------------------perf information--------------------**  **1240622360**  **17394.470**  **34784343116**  **19161862311**  **433917817**  **433921218**  **1769386626**  **29099618**  **5309894116**  **17699149**  **10122260**  **433936163**  **0.550**  **Finished executing ./gradient.py.** |