```
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % ls
GeneratedPtauFinal.ptau         convolution.circom              mimcsponge.circom               powersOfTau28_hez_final_17.ptau witness_calculator.js
README.md                       generate_witness.js             mnistmodel.circom               proof.json                      witnesscnn.wtns
argmax.circom                   hashfunc.circom                 mnistmodel.r1cs                 public.json
arrsum.circom                   input.json                      mnistmodel.wasm                 relu.circom
circuit_final.zkey              linear.circom                   mnistmodel_js                   verification_key.json
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % snarkjs powersoftau verify GeneratedPtauFinal.ptau
[INFO]  snarkJS: Powers Of tau file OK!
[INFO]  snarkJS: Next challenge hash:
                ef671081 7310fb07 69f104f9 e6651593
                7755f2e5 080f3496 06c66ee0 35a6c277
                dee9d7c9 3db0ad47 d51906e2 53b45209
                bc75d178 87f315c8 6312c11b 9fb47416
[INFO]  snarkJS: ------------------------------------------------------
[INFO]  snarkJS: Contribution #3: Final Beacon
[INFO]  snarkJS: Next Challenge:
                ef671081 7310fb07 69f104f9 e6651593
                7755f2e5 080f3496 06c66ee0 35a6c277
                dee9d7c9 3db0ad47 d51906e2 53b45209
                bc75d178 87f315c8 6312c11b 9fb47416
[INFO]  snarkJS: Response Hash:
                1bb4b8a6 0e281ee1 1820e65f 5f202152
                aedca5b6 7fe5cb27 03c17580 70db6b3d
                d501d6f8 6d278398 8afabdaf ea30d9e3
                c344b93b 18e4911c 942f3bf4 3ce3446c
[INFO]  snarkJS: Response Hash:
                bdc6f8b7 01dfe019 f4a5c8b1 29eacdba
                74d96e93 566a6194 a9d07946 16c58b76
                48501bae 43ab82a5 2ff1cf4b a4003a48
                709c7261 809475a1 0396dc28 603d06d9
[INFO]  snarkJS: Beacon generator: 0102030405060708090a0b0c0d0e0f101112131415161718191a1b1c1d1e1f
[INFO]  snarkJS: Beacon iterations Exp: 10
[INFO]  snarkJS: Powers Of tau file OK!
[INFO]  snarkJS: ------------------------------------------------------
[INFO]  snarkJS: Contribution #2: Second contribution
[INFO]  snarkJS: Next Challenge:
                bdc6f8b7 01dfe019 f4a5c8b1 29eacdba
                74d96e93 566a6194 a9d07946 16c58b76
                48501bae 43ab82a5 2ff1cf4b a4003a48
                709c7261 809475a1 0396dc28 603d06d9
[INFO]  snarkJS: Response Hash:
                b3765e95 6d232ac2 49de61e9 44858932
                2fb275f5 ed3f8825 3eca62a2 a1a0eca5
                f16126f7 2da2d20c 57aa59df ce76c3d8
                d4869185 a4810f0e c0c1e132 85c70b83
[INFO]  snarkJS: Response Hash:
                da8d64d6 f395d81d 19403dee e13cc291
                075ce95e daed5591 b0174d2c f60daa81
                5e1ec932 936296d1 fd0208ab b95b8d8c
                69571caa 89a2bb2c 2ed5d3fb 92ccde06
[INFO]  snarkJS: Powers Of tau file OK!
[INFO]  snarkJS: ------------------------------------------------------
[INFO]  snarkJS: Contribution #1: First contribution
[INFO]  snarkJS: Next Challenge:
                da8d64d6 f395d81d 19403dee e13cc291
                075ce95e daed5591 b0174d2c f60daa81
                5e1ec932 936296d1 fd0208ab b95b8d8c
                69571caa 89a2bb2c 2ed5d3fb 92ccde06
[INFO]  snarkJS: Response Hash:
                38fdf739 df6bd4c6 a52c9f5d f9042247
                dc88f842 5fc8058c b5d68fea 4861fba0
                cfe794a1 36656219 da8e8ac2 1db29046
                2417473a 24557ec4 bdf6e881 fa3e32e7
[INFO]  snarkJS: Response Hash:
                d27bebee 8c0abf50 66dd8742 fa7de8c4
                54bea04a 8afad209 d51f58ec 16bcea9e
                02b2774d 6d408b4a 71af1986 203a7ed7
                d9d2d6d5 fb7c5318 b8d58183 a15b9706
[INFO]  snarkJS: ------------------------------------------------------
[INFO]  snarkJS: Powers of Tau Ok!
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % circom mnistmodel.circom --wasm --r1cs
template instances: 9
non-linear constraints: 45500
linear constraints: 0
public inputs: 0
public outputs: 1
private inputs: 1998
private outputs: 0
wires: 47500
labels: 52530
Written successfully: ./mnistmodel.r1cs
Written successfully: ./mnistmodel_js/mnistmodel.wasm
Everything went okay, circom safe
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % cd mnistmodel_js/
mv * ../
cd ..
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % snarkjs plonk setup mnistmodel.r1cs GeneratedPtauFinal.ptau circuit_final.zkey
snarkjs zkey export verificationkey circuit_final.zkey verification_key.json
[INFO]  snarkJS: Reading r1cs
[INFO]  snarkJS: Plonk constraints: 102701
[INFO]  snarkJS: Setup Finished
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % node generate_witness.js mnistmodel.wasm input.json witness.wtns
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % snarkjs plonk prove circuit_final.zkey witness.wtns proof.json public.json
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN % snarkjs plonk verify verification_key.json public.json proof.json
[INFO]  snarkJS: OK!
(base) siddharthaalluri@Siddharthas-MacBook-Air zkSNARK_CNN %
```