Task2:- Data Manipulation

1. **Task Description:**

   Use broadcasting to normalize a 2D numpy array row-wise.

2. **Task Output Screenshot:**

```
Original two Features were Unit_Cost and Total_Revenue:
 [[1.59420000e+02 2.53365400e+06]
 [1.17110000e+02 5.76782800e+05]
 [5.24960000e+02 1.15850259e+06]
 [6.92000000e+00 7.55916600e+04]
 [5.24960000e+02 3.29642502e+06]
 [1.59420000e+02 7.59202720e+05]
 [5.02540000e+02 2.79804649e+06]
 [9.09300000e+01 1.24511292e+06]
 [5.66700000e+01 4.96101100e+05]
 [1.17110000e+02 1.35618010e+06]
 [9.09300000e+01 1.91034400e+04]
 [3.58400000e+01 4.55479040e+05]
 [3.58400000e+01 9.02980640e+05]
 [5.02540000e+02 5.99705498e+06]
 [5.66700000e+01 4.00558730e+05]
 [3.58400000e+01 1.82825440e+05]
 [2.63330000e+02 3.03941440e+06]
 [3.17900000e+01 2.57653500e+05]
 [5.02540000e+02 2.55947410e+06]
 [3.64690000e+02 2.49252612e+06]
 [1.59420000e+02 1.90183600e+06]
 [1.59420000e+02 3.24971440e+05]
 [9.74400000e+01 3.39490500e+05]
 [6.92000000e+00 2.04047100e+04]
 [5.66700000e+01 4.14371100e+05]
 [2.63330000e+02 7.93518000e+05]
 [6.92000000e+00 5.03633400e+04]
 [6.92000000e+00 5.43192600e+04]
 [3.17900000e+01 2.43133800e+05]
 [5.02540000e+02 1.58379990e+06]
 [2.63330000e+02 3.78658920e+06]
 [5.66700000e+01 1.73676250e+05]
 [5.24960000e+02 1.90413804e+06]
 [5.02540000e+02 5.51322750e+06]
 [9.74400000e+01 1.11795366e+06]
 [5.66700000e+01 5.23807570e+05]
 [6.92000000e+00 3.53047200e+04]
 [3.64690000e+02 2.01114963e+06]
 [5.24960000e+02 4.36831668e+06]
 [5.24960000e+02 2.59637427e+06]
 [5.66700000e+01 2.46415950e+05]
 [2.63330000e+02 3.16270480e+06]
 [1.17110000e+02 4.35466900e+05]
 [9.09300000e+01 2.63442600e+04]
 [3.58400000e+01 6.48030400e+05]
 [1.17110000e+02 1.97883400e+05]
 [2.63330000e+02 3.87665240e+06]
 [5.66700000e+01 2.23122900e+04]
 [3.58400000e+01 8.56973760e+05]
```

```
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 [5.02540000e+02 1.88452140e+05]
 [2.63330000e+02 3.15439800e+06]
 [1.17110000e+02 1.40287400e+05]
 [1.59420000e+02 1.21258000e+06]
 [5.24960000e+02 3.59337678e+06]
 [3.58400000e+01 6.68356480e+05]
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 [5.66700000e+01 7.07454880e+05]
 [3.58400000e+01 6.00821440e+05]
 [5.24960000e+02 5.39657727e+06]
 [3.58400000e+01 8.02333760e+05]
 [5.24960000e+02 3.26256210e+06]
 [6.92000000e+00 6.27909000e+03]
 [3.17900000e+01 2.72410450e+05]
 [1.17110000e+02 1.78053920e+06]
 [2.63330000e+02 4.32478240e+06]
 [5.02540000e+02 4.64714958e+06]
 [3.17900000e+01 4.45033550e+05]
 [9.09300000e+01 5.74951920e+05]
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 [2.63330000e+02 4.22072880e+06]
 [5.02540000e+02 3.01590251e+06]
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 [5.66700000e+01 5.24870060e+05]
 [3.17900000e+01 4.18936050e+05]
 [1.59420000e+02 1.41910152e+06]
 [6.92000000e+00 4.87026000e+03]
 [3.17900000e+01 2.21117000e+05]
 [5.24960000e+02 6.17347080e+05]
 [3.17900000e+01 4.45508050e+05]
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 [2.63330000e+02 3.45825200e+06]
 [3.17900000e+01 3.87002200e+05]
 [3.58400000e+01 9.70406400e+04]
 [6.92000000e+00 5.84711100e+04]
 [9.09300000e+01 2.28779100e+05]
 [5.66700000e+01 4.71336910e+05]
 [5.02540000e+02 3.58660509e+06]]
```

```
Row Sums:
 [[2.53381342e+06]
 [5.76899910e+05]
 [1.15902755e+06]
 [7.55985800e+04]
 [3.29694998e+06]
 [7.59362140e+05]
 [2.79854903e+06]
 [1.24520385e+06]
 [4.96157770e+05]
 [1.35629721e+06]
 [1.91943700e+04]
 [4.55514880e+05]
 [9.03016480e+05]
 [5.99755752e+06]
 [4.00615400e+05]
 [1.82861280e+05]
 [3.03967773e+06]
 [2.57685290e+05]
 [2.55997664e+06]
 [2.49289081e+06]
 [1.90199542e+06]
 [3.25130860e+05]
 [3.39587940e+05]
 [2.04116300e+04]
 [4.14427770e+05]
 [7.93781330e+05]
 [5.03702600e+04]
 [5.43261800e+04]
 [2.43165590e+05]
 [1.58430244e+06]
 [3.78685253e+06]
 [1.73732920e+05]
 [1.90466300e+06]
 [5.51373004e+06]
 [1.11805110e+06]
 [5.23864240e+05]
 [3.53116400e+04]
 [2.01151432e+06]
 [4.36884164e+06]
 [2.59689923e+06]
 [2.46472620e+05]
 [3.16296813e+06]
 [4.35584010e+05]
 [2.64351900e+04]
 [6.48066240e+05]
 [1.98000510e+05]
 [3.87691573e+06]
 [2.23689600e+04]
 [8.57009600e+05]
 [8.24956820e+05]
 [2.47992160e+05]
```

```
[3.15466133e+06]
[1.40404510e+05]
[1.21273942e+06]
[3.59390174e+06]
[6.68392320e+05]
[7.45689330e+05]
[1.95760773e+06]
[7.07511550e+05]
[6.00857280e+05]
[5.39710223e+06]
[8.02369600e+05]
[3.26308706e+06]
[6.28601000e+03]
[2.72442240e+05]
[1.78065631e+06]
[4.32504573e+06]
[4.64765212e+06]
[4.45065340e+05]
[5.75042850e+05]
[2.19914134e+06]
[4.22099213e+06]
[3.01640505e+06]
[8.61599360e+05]
[2.83725413e+06]
[6.23386740e+05]
[9.94856350e+05]
[5.24926730e+05]
[4.18967840e+05]
[1.41926094e+06]
[4.87718000e+03]
[2.21148790e+05]
[6.17872040e+05]
[4.45539840e+05]
[1.31662037e+06]
[3.45851533e+06]
[3.87033990e+05]
[9.70764800e+04]
[5.84780300e+04]
[2.28870030e+05]
[4.71393580e+05]
[3.58710763e+06]]
```

```
Normalized Features (Row-wise):
 [[6.29170241e-05 9.99937083e-01]
 [2.02998818e-04 9.99797001e-01]
 [4.52931425e-04 9.99547069e-01]
 [9.15361109e-05 9.99908464e-01]
 [1.59225952e-04 9.99840774e-01]
 [2.09939358e-04 9.99790061e-01]
 [1.79571626e-04 9.99820428e-01]
 [7.30241880e-05 9.99926976e-01]
 [1.14217701e-04 9.99885782e-01]
 [8.63453815e-05 9.99913655e-01]
 [4.73732662e-03 9.95262673e-01]
 [7.86801959e-05 9.99921320e-01]
 [3.96891981e-05 9.99960311e-01]
 [8.37907762e-05 9.99916209e-01]
 [1.41457368e-04 9.99858543e-01]
 [1.95995566e-04 9.99804004e-01]
 [8.66308943e-05 9.99913369e-01]
 [1.23367539e-04 9.99876632e-01]
 [1.96306479e-04 9.99803694e-01]
 [1.46292007e-04 9.99853708e-01]
 [8.38172365e-05 9.99916183e-01]
 [4.90325649e-04 9.99509674e-01]
 [2.86935985e-04 9.99713064e-01]
 [3.39022410e-04 9.99660978e-01]
 [1.36742767e-04 9.99863257e-01]
 [3.31741237e-04 9.99668259e-01]
 [1.37382654e-04 9.99862617e-01]
 [1.27378733e-04 9.99872621e-01]
 [1.30733958e-04 9.99869266e-01]
 [3.17199537e-04 9.99682800e-01]
 [6.95379601e-05 9.99930462e-01]
 [3.26190339e-04 9.99673810e-01]
 [2.75618311e-04 9.99724382e-01]
 [9.11433814e-05 9.99908857e-01]
 [8.71516517e-05 9.99912848e-01]
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 [1.95969374e-04 9.99804031e-01]
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 [8.32540795e-05 9.99916746e-01]
 [2.68857436e-04 9.99731143e-01]
 [3.43973317e-03 9.96560267e-01]
 [5.53029888e-05 9.99944697e-01]
 [5.91463123e-04 9.99408537e-01]
 [6.79225494e-05 9.99932077e-01]
 [2.53342131e-03 9.97466579e-01]
 [4.18198349e-05 9.99958180e-01]
 [6.36348458e-04 9.99363652e-01]
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```
[1.44520698e-04 9.99855479e-01]
[7.72055173e-05 9.99922794e-01]
[1.40104478e-04 9.99859896e-01]
[2.33133408e-04 9.99766867e-01]
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[1.46069659e-04 9.99853930e-01]
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[3.53136339e-04 9.99646864e-01]
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[5.96481081e-05 9.99940352e-01]
[9.72670106e-05 9.99902733e-01]
[4.46676943e-05 9.99955332e-01]
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[7.24919300e-05 9.99927508e-01]
[6.23858069e-05 9.99937614e-01]
[1.66602294e-04 9.99833398e-01]
[4.15970597e-05 9.99958403e-01]
[9.28115664e-05 9.99907188e-01]
[1.56307463e-04 9.99843693e-01]
[9.14001303e-05 9.99908600e-01]
[1.07957924e-04 9.99892042e-01]
[7.58769456e-05 9.99924123e-01]
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[8.49625757e-04 9.99150374e-01]
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[8.21374888e-05 9.99917863e-01]
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[1.18335040e-04 9.99881665e-01]
[3.97299725e-04 9.99602700e-01]
[1.20218014e-04 9.99879782e-01]
[1.40096159e-04 9.99859904e-01]]
```

3. Algorithm Used In Task:

- Row-wise normalization is used.

- Numpy and pandas library is used for DataFrame and NumPy Arrays.