

Queue Implementation

For Value cpu_n_iters = 0

```
Last login: Mon May  6 00:46:54 on ttys002
[(base) radharajesh@Radhas-MacBook-Pro ~ % cd Documents
[(base) radharajesh@Radhas-MacBook-Pro Documents % cd EC530
[(base) radharajesh@Radhas-MacBook-Pro EC530 % ls
Queue cpu_n_iters is 0.py      Queue cpu_n_iters is 4.py
Queue cpu_n_iters is 1.py      Queue cpu_n_iters is 5.py
Queue cpu_n_iters is 2.py      Untitled-1.py
Queue cpu_n_iters is 3.py      abcd.py
[(base) radharajesh@Radhas-MacBook-Pro EC530 % python3 Queue\ cpu_n_iters\ is\ 0.py
nthreads CpuThread CpuProcess IoThread IoProcess
1.000000e+00 1.351833e-04 7.488298e-02 1.006146e+00 1.101585e+00
2.000000e+00 7.820129e-04 7.235312e-02 1.002730e+00 1.105391e+00
3.000000e+00 1.063824e-03 7.981110e-02 1.006128e+00 1.114472e+00
4.000000e+00 1.146317e-03 8.384013e-02 1.006042e+00 1.106599e+00
5.000000e+00 1.013041e-03 8.715796e-02 1.007152e+00 1.104725e+00
6.000000e+00 7.967949e-04 8.434415e-02 1.006873e+00 1.112421e+00
7.000000e+00 1.248121e-03 9.268308e-02 1.006147e+00 1.114937e+00
8.000000e+00 1.478195e-03 9.830594e-02 1.006346e+00 1.119404e+00
9.000000e+00 1.470089e-03 1.044118e-01 1.006412e+00 1.123147e+00
1.000000e+01 1.469851e-03 1.114130e-01 1.006352e+00 1.129962e+00
1.100000e+01 1.565933e-03 1.222110e-01 1.006478e+00 1.134441e+00
1.200000e+01 1.344204e-03 1.284552e-01 1.007035e+00 1.145274e+00
1.300000e+01 1.591682e-03 1.376212e-01 1.006752e+00 1.154100e+00
1.400000e+01 1.604080e-03 1.420259e-01 1.006873e+00 1.162415e+00
1.500000e+01 1.547098e-03 1.494782e-01 1.006379e+00 1.165861e+00
1.600000e+01 1.616955e-03 1.576738e-01 1.007079e+00 1.176759e+00
1.700000e+01 1.950979e-03 1.710060e-01 1.007321e+00 1.183215e+00
1.800000e+01 1.725912e-03 1.737580e-01 1.007615e+00 1.190263e+00
1.900000e+01 1.870871e-03 1.831970e-01 1.004849e+00 1.198379e+00
(base) radharajesh@Radhas-MacBook-Pro EC530 %
```

For Value cpu_n_iters is = 1

```
[(base) radharajesh@Radhas-MacBook-Pro EC530 % python3 Queue\ cpu_n_iters\ is\ 1.py
nthreads CpuThread CpuProcess IoThread IoProcess
1.000000e+00 1.409054e-04 7.923293e-02 1.005971e+00 1.110515e+00
2.000000e+00 8.115768e-04 7.635713e-02 1.005715e+00 1.103574e+00
3.000000e+00 5.612373e-04 8.195472e-02 1.006055e+00 1.105735e+00
4.000000e+00 1.049042e-03 8.412075e-02 1.006261e+00 1.105951e+00
5.000000e+00 9.398460e-04 9.260583e-02 1.006237e+00 1.134930e+00
6.000000e+00 7.829666e-04 9.189081e-02 1.005857e+00 1.135527e+00
7.000000e+00 1.681805e-03 9.720397e-02 1.005760e+00 1.146409e+00
8.000000e+00 1.197815e-03 1.003361e-01 1.006257e+00 1.118928e+00
9.000000e+00 1.256943e-03 1.047819e-01 1.006678e+00 1.123828e+00
1.000000e+01 1.396894e-03 1.132398e-01 1.006339e+00 1.128580e+00
1.100000e+01 1.667261e-03 1.217270e-01 1.006467e+00 1.133994e+00
1.200000e+01 1.445770e-03 1.258030e-01 1.007323e+00 1.150562e+00
1.300000e+01 1.609325e-03 1.385882e-01 1.007044e+00 1.154515e+00
1.400000e+01 1.530170e-03 1.413403e-01 1.006741e+00 1.158472e+00
1.500000e+01 1.397133e-03 1.529958e-01 1.006433e+00 1.171855e+00
1.600000e+01 1.570702e-03 1.560831e-01 1.007261e+00 1.179578e+00
1.700000e+01 1.645088e-03 1.654322e-01 1.006395e+00 1.189256e+00
1.800000e+01 1.746178e-03 1.760211e-01 1.007421e+00 1.190232e+00
1.900000e+01 1.780987e-03 1.843731e-01 1.007123e+00 1.203208e+00
(base) radharajesh@Radhas-MacBook-Pro EC530 %
```


For Value cpu_n_iters = 2

```
[(base) radharajesh@Radhas-MacBook-Pro EC530 % python3 Queue\ cpu_n_iters\ is\ 2.py
nthreads CpuThread CpuProcess IoThread IoProcess
1.000000e+00 1.580715e-04 7.917500e-02 1.006123e+00 1.106070e+00
2.000000e+00 7.951260e-04 7.338905e-02 1.006004e+00 1.104283e+00
3.000000e+00 9.009838e-04 7.968903e-02 1.006077e+00 1.108140e+00
4.000000e+00 9.729862e-04 8.828807e-02 1.006029e+00 1.105261e+00
5.000000e+00 1.175165e-03 8.479905e-02 1.006965e+00 1.107724e+00
6.000000e+00 9.129047e-04 8.869195e-02 1.006171e+00 1.112612e+00
7.000000e+00 1.228094e-03 9.853482e-02 1.005737e+00 1.112574e+00
8.000000e+00 1.357079e-03 9.649587e-02 1.006465e+00 1.118617e+00
9.000000e+00 1.323938e-03 1.043723e-01 1.006467e+00 1.125400e+00
1.000000e+01 1.359224e-03 1.134810e-01 1.006835e+00 1.127367e+00
1.100000e+01 1.432896e-03 1.250870e-01 1.006551e+00 1.136321e+00
1.200000e+01 1.506805e-03 1.313031e-01 1.006144e+00 1.147539e+00
1.300000e+01 1.561880e-03 1.334202e-01 1.006934e+00 1.155144e+00
1.400000e+01 1.558065e-03 1.476941e-01 1.007318e+00 1.165739e+00
1.500000e+01 1.542091e-03 1.446791e-01 1.007102e+00 1.166117e+00
1.600000e+01 1.607180e-03 1.606090e-01 1.006265e+00 1.182115e+00
1.700000e+01 1.610041e-03 1.761720e-01 1.007477e+00 1.184810e+00
1.800000e+01 1.710176e-03 1.775639e-01 1.007264e+00 1.197844e+00
1.900000e+01 1.770973e-03 1.831541e-01 1.007512e+00 1.196506e+00
(base) radharajesh@Radhas-MacBook-Pro EC530 %
```

For Value cpu_n_iters = 3

```
[(base) radharajesh@Radhas-MacBook-Pro EC530 % python3 Queue\ cpu_n_iters\ is\ 3.py
nthreads CpuThread CpuProcess IoThread IoProcess
1.000000e+00 1.420975e-04 8.186007e-02 1.003534e+00 1.110426e+00
2.000000e+00 8.802414e-04 7.419705e-02 1.006274e+00 1.105292e+00
3.000000e+00 8.871555e-04 7.728481e-02 1.006007e+00 1.101921e+00
4.000000e+00 9.078979e-04 8.266807e-02 1.006093e+00 1.109616e+00
5.000000e+00 1.020908e-03 8.492422e-02 1.006123e+00 1.107488e+00
6.000000e+00 1.079798e-03 8.614016e-02 1.005750e+00 1.111902e+00
7.000000e+00 1.245022e-03 9.760213e-02 1.006366e+00 1.114787e+00
8.000000e+00 1.169920e-03 9.879899e-02 1.005937e+00 1.118427e+00
9.000000e+00 1.425266e-03 1.032059e-01 1.006581e+00 1.124204e+00
1.000000e+01 1.398087e-03 1.107709e-01 1.006576e+00 1.128703e+00
1.100000e+01 1.493931e-03 1.175730e-01 1.005860e+00 1.136957e+00
1.200000e+01 1.413822e-03 1.220260e-01 1.006783e+00 1.142732e+00
1.300000e+01 1.279831e-03 1.484692e-01 1.006843e+00 1.148046e+00
1.400000e+01 1.663446e-03 1.486959e-01 1.006921e+00 1.158360e+00
1.500000e+01 1.580000e-03 1.463380e-01 1.006469e+00 1.168860e+00
1.600000e+01 1.598120e-03 1.687880e-01 1.007078e+00 1.180195e+00
1.700000e+01 1.745224e-03 1.752832e-01 1.006768e+00 1.186141e+00
1.800000e+01 1.758099e-03 1.802981e-01 1.007701e+00 1.192348e+00
1.900000e+01 1.827717e-03 1.886189e-01 1.007346e+00 1.202833e+00
(base) radharajesh@Radhas-MacBook-Pro EC530 %
```

For Value cpu_n_iters = 4

```
[(base) radharajesh@Radhas-MacBook-Pro EC530 % python3 Queue\ cpu_n_iters\ is\ 4.py
nthreads CpuThread CpuProcess IoThread IoProcess
1.000000e+00 1.378059e-04 8.277488e-02 1.005917e+00 1.108227e+00
2.000000e+00 7.719994e-04 7.805324e-02 1.005918e+00 1.099643e+00
3.000000e+00 7.438660e-04 7.995582e-02 1.005691e+00 1.106527e+00
4.000000e+00 9.450912e-04 8.305907e-02 1.006061e+00 1.109014e+00
5.000000e+00 1.067162e-03 8.451128e-02 1.005920e+00 1.109633e+00
6.000000e+00 1.146317e-03 8.934188e-02 1.006498e+00 1.112045e+00
7.000000e+00 1.175165e-03 9.553599e-02 1.006986e+00 1.139391e+00
8.000000e+00 1.127958e-03 1.091530e-01 1.005180e+00 1.131764e+00
9.000000e+00 2.120733e-03 1.103530e-01 1.005846e+00 1.135261e+00
1.000000e+01 1.698017e-03 1.227651e-01 1.006229e+00 1.149454e+00
1.100000e+01 1.688004e-03 1.347280e-01 1.006809e+00 1.161600e+00
1.200000e+01 1.852274e-03 1.303289e-01 1.007067e+00 1.173069e+00
1.300000e+01 2.014399e-03 1.498470e-01 1.006606e+00 1.167172e+00
1.400000e+01 1.519918e-03 1.452737e-01 1.005784e+00 1.161555e+00
1.500000e+01 2.273083e-03 1.628618e-01 1.007353e+00 1.168086e+00
1.600000e+01 1.638889e-03 1.682329e-01 1.007308e+00 1.173006e+00
1.700000e+01 1.747847e-03 1.770642e-01 1.005991e+00 1.186636e+00
1.800000e+01 1.712799e-03 1.759760e-01 1.007653e+00 1.193562e+00
1.900000e+01 1.932144e-03 1.969399e-01 1.006599e+00 1.204986e+00
(base) radharajesh@Radhas-MacBook-Pro EC530 %
```

For Value cpu_n_iters = 5

```
1.700000e+01 1.732144e-03 1.787377e-01 1.006377e+00 1.204786e+00
[(base) radharajesh@Radhas-MacBook-Pro EC530 % python3 Queue\ cpu_n_iters\ is\ 5.py
nthreads CpuThread CpuProcess IoThread IoProcess
1.000000e+00 1.599789e-04 8.094907e-02 1.005939e+00 1.108878e+00
2.000000e+00 7.870197e-04 8.203983e-02 1.005979e+00 1.099903e+00
3.000000e+00 7.469654e-04 8.014488e-02 1.005561e+00 1.108479e+00
4.000000e+00 6.468296e-04 7.636595e-02 1.005976e+00 1.107062e+00
5.000000e+00 1.139402e-03 8.715224e-02 1.005805e+00 1.111557e+00
6.000000e+00 1.253843e-03 8.817601e-02 1.006253e+00 1.115166e+00
7.000000e+00 1.351357e-03 9.502792e-02 1.006135e+00 1.114143e+00
8.000000e+00 1.367092e-03 9.934497e-02 1.006974e+00 1.116653e+00
9.000000e+00 1.392126e-03 1.046531e-01 1.006467e+00 1.120426e+00
1.000000e+01 1.649857e-03 1.130922e-01 1.006929e+00 1.133098e+00
1.100000e+01 1.636028e-03 1.165619e-01 1.006576e+00 1.136592e+00
1.200000e+01 1.445770e-03 1.266150e-01 1.006256e+00 1.147717e+00
1.300000e+01 1.597881e-03 1.324878e-01 1.006219e+00 1.152062e+00
1.400000e+01 1.527071e-03 1.427460e-01 1.006218e+00 1.161826e+00
1.500000e+01 1.603842e-03 1.594920e-01 1.006930e+00 1.165377e+00
1.600000e+01 1.666784e-03 1.557460e-01 1.006809e+00 1.175850e+00
1.700000e+01 1.755238e-03 1.745300e-01 1.007469e+00 1.182891e+00
1.800000e+01 1.856089e-03 1.834781e-01 1.007369e+00 1.192387e+00
1.900000e+01 2.055168e-03 1.959960e-01 1.007543e+00 1.193049e+00
(base) radharajesh@Radhas-MacBook-Pro EC530 %
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