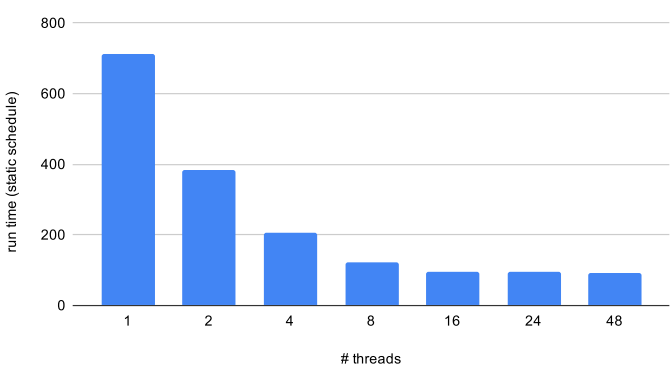


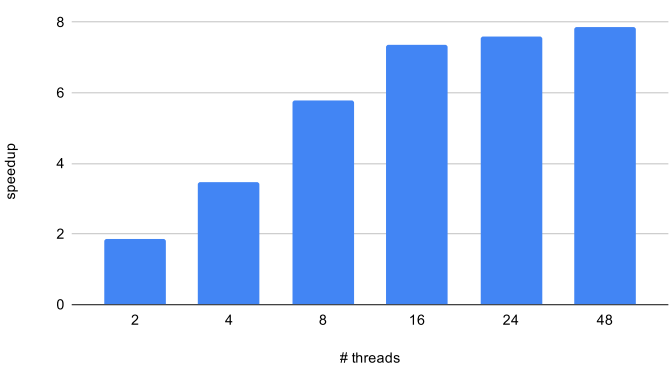
# threads	run time (static schedule)
1	712.24
2	385.5
4	204.97
8	123.38
16	96.62
24	93.94
48	90.63

LU Decomposition (OpenMP) Runtime for 9984x9984 matrix



# threads	speedup
2	1.85
4	3.47
8	5.77
16	7.37
24	7.58
48	7.86

LU Decomposition (OpenMP) Speedup for 9984x9984 matrix



```
Matrix size 9984; # of threads 1
LU Decomposition w/ forward/back substitution to solve for vector x runs in 712.24 seconds
Matrix size 9984; # of threads 2
LU Decomposition w/ forward/back substitution to solve for vector x runs in 385.50 seconds
Matrix size 9984; # of threads 4
LU Decomposition w/ forward/back substitution to solve for vector x runs in 204.97 seconds
Matrix size 9984; # of threads 8
LU Decomposition w/ forward/back substitution to solve for vector x runs in 123.38 seconds
Matrix size 9984; # of threads 16
LU Decomposition w/ forward/back substitution to solve for vector x runs in 96.62 seconds
Matrix size 9984; # of threads 24
LU Decomposition w/ forward/back substitution to solve for vector x runs in 93.94 seconds
Matrix size 9984; # of threads 48
LU Decomposition w/ forward/back substitution to solve for vector x runs in 90.63 seconds
Matrix size 9984; # of threads 96
LU Decomposition w/ forward/back substitution to solve for vector x runs in 97.50 seconds
Matrix size 9984; # of threads 312
LU Decomposition w/ forward/back substitution to solve for vector x runs in 121.91 seconds
```

```
Matrix A
Row 1:  1.00   1.00  -1.00
Row 2:  1.00  -2.00   3.00
Row 3:  2.00   3.00   1.00
```

```
Matrix U
Row 1:  1.00   1.00  -1.00
Row 2:  0.00  -3.00   4.00
Row 3:  0.00   0.00   4.33
```

```
Matrix L
Row 1:  1.00   0.00   0.00
Row 2:  1.00   1.00   0.00
Row 3:  2.00  -0.33   1.00
```

```
x' vector
4
-10
-4.33333
```

```
x (solution vector)
1
2
-1
```