

3)

b) $n=1000$

A type:	Full	Full	Full	Sparse
Solve method:	Evil inverse	GE scheme	$A \setminus f$	$A \setminus f$
Time (s):	0.1	15.27	0.021	0.000056

$n=2000$

A type:	Full	Full	Full	Sparse
Solve method:	Evil inverse	GE scheme	$A \setminus f$	$A \setminus f$
Time (s):	0.695	133.65	0.114	0.000082

$n=5000$

A type:	Full	Full	Full	Sparse
Solve method:	Evil inverse	GE scheme	$A \setminus f$	$A \setminus f$
Time (s):	8.27	>25 min.	1.6494	0.000206

For set n , sparse backslash is fastest, then full backslash, then full evil inverse and the slowest one is the full Gaussian Elimination Scheme.

As n increases, it seems like sparse backslash time increase linearly, and full backslash quadratically. The full evil inverse and especially the full GE scheme time increase much faster than n .