# Contents - Largest n such that we didn't run out of memory

- Jacobi
- BLKJacobi
- GS
- SOR
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- Plotting commands

```
Solving the Convection-Diffusion equation with beta = -0.0097, gamma = -0.0195 and n = 512
```

```
Time using backslash = 1.9885 solution norm = 6.3614e-06
```

### Jacobi

```
| Jacobi |
```

Residual after error 2000 interations = 6.6688e-02Time to run Jacobi = 13.1997

# **BLKJacobi**

```
| BLK Jacobi |
```

Residual after error 2000 interations = 6.3282e-02Time to run Jacobi = 28.6637

### GS

```
| Gauss-Siedel |
```

Residual after error 2000 interations = 6.3550e-02Time to run GS = 19.1120 | SOR |

Omega = 1.9 Residual after error 2000 interations = 1.4998e-02 Time to run SOR = 20.8581

| GMRES |

Residual error after 1368 interations = 7.2598e-08Time to run CG = 4438.9891

# **PGMRES**

PGMRES |

Residual error after 417 interations = 1.2454e-07 Time to run CG = 447.9855

