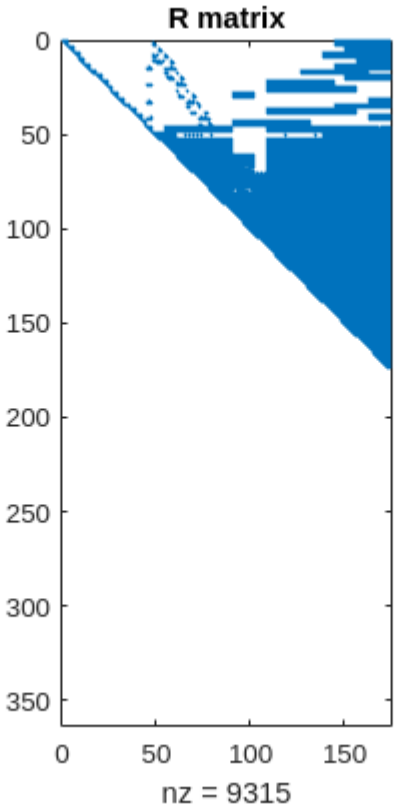
Q3 - Variable Ordering

```
load('hw5_A.mat'); %produces A matrix in the workspace
```

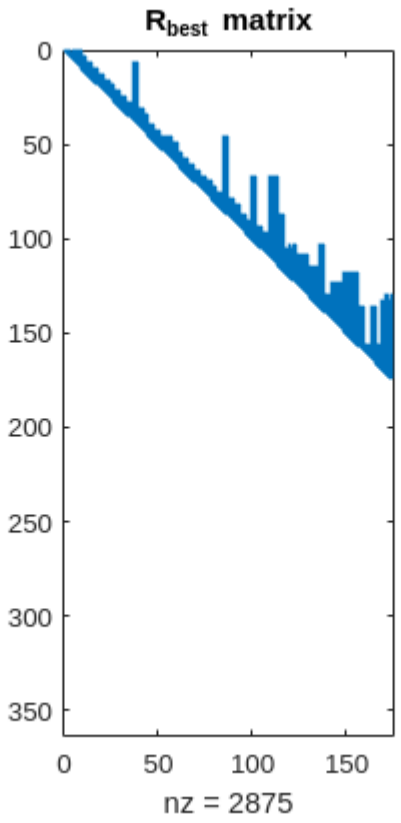
(a) Obtain R with QR fatorization

```
[~,R] = qr(A);
spy(R);
title('R matrix');
```



(b) best R

```
p = colamd(A);
[~,Rbest] = qr(A(:,p));
spy(Rbest);
title('R_{best} matrix');
```



R_{best} has ~30% values of the initial R matrix.

Hence will require to do only ~30% of the computations when sovling back subsitution with R_{best} when compared to R.