```matlab
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% This is the first part of question 3
% A Wathen matrix with rcm and amd applied with appropriate etreeplots
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

B = gallery('wathen',8,8);

spy(B);

p = symrcm(B);
rcmB = B(p,p);

p = symamd(B);
amdB = B(p,p);

figure();
    subplot(3,3,1),spy(B),title('B')
    subplot(3,3,2),spy(chol(B)),title('chol B')
    subplot(3,3,3),etreeplot(B),title('etreeplot B')

    subplot(3,3,4),spy(rcmB),title('rcm B')
    subplot(3,3,5),spy(chol(rcmB)),title('chol rcm B')
    subplot(3,3,6),etreeplot(rcmB),title('etreelot rcm B')

    subplot(3,3,7),spy(amdB),title('amd B')
    subplot(3,3,8),spy(chol(amdB)),title('chol amd B')
    subplot(3,3,9),etreeplot(amdB),title('etreelot amd B')
```
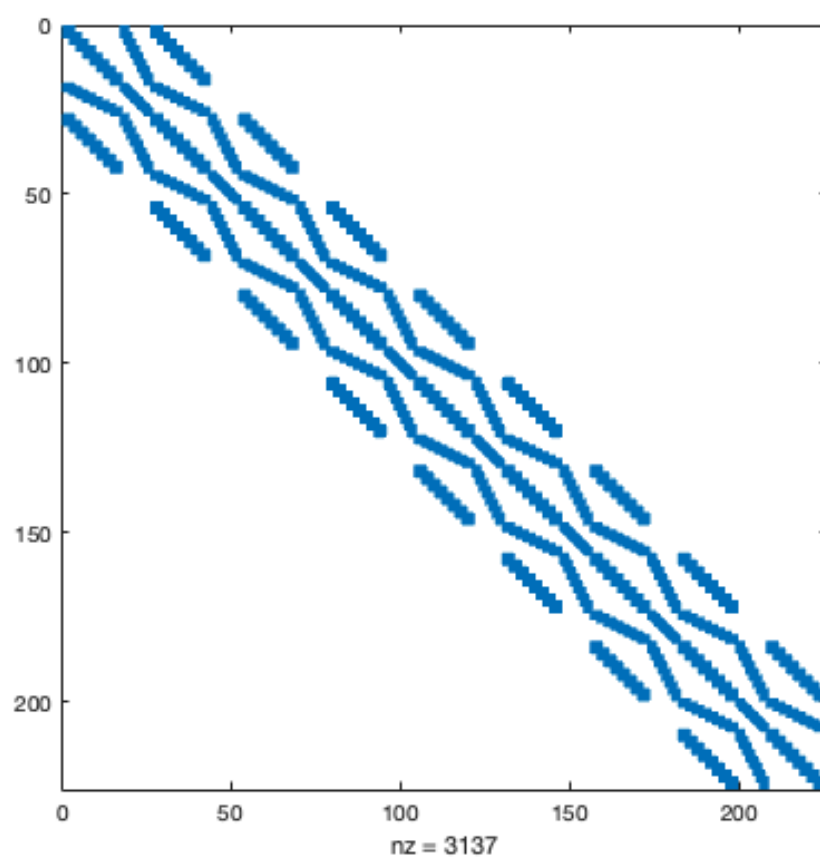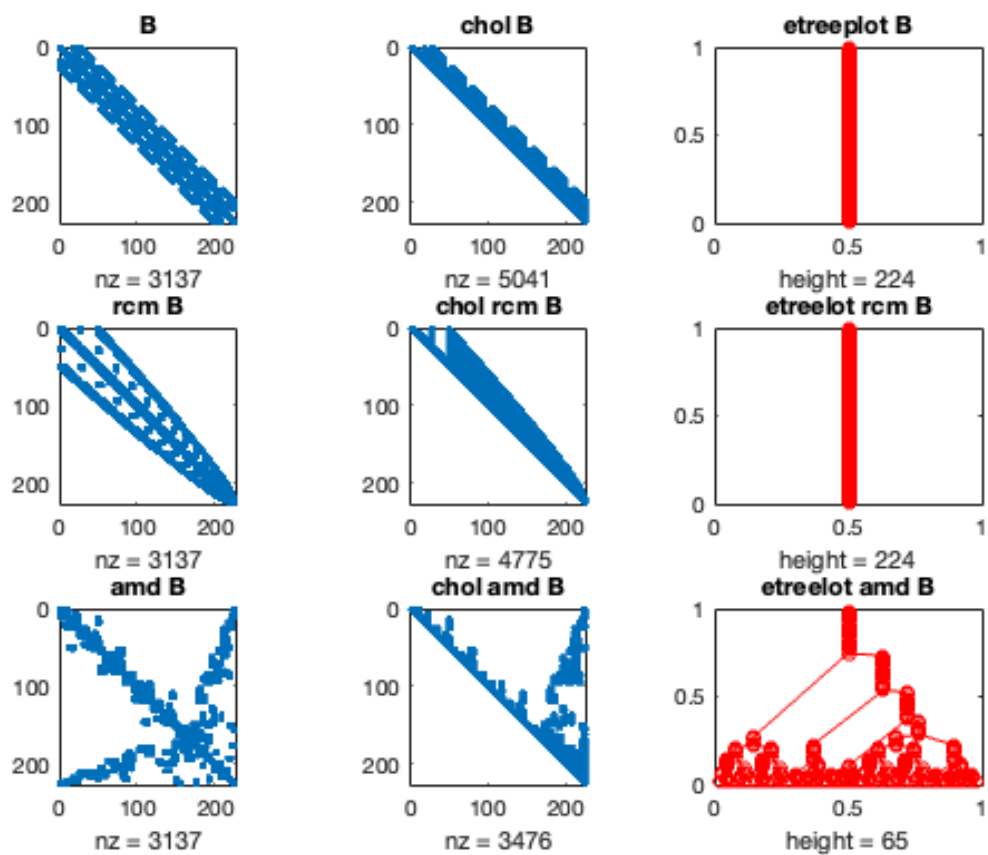
nz = 3137

B	chol B	etreeplot B
rcm B	chol rcm B	etreelot rcm B
amd B	chol amd B	etreelot amd B

B — nz = 3137
chol B — nz = 5041
etreeplot B — height = 224

rcm B — nz = 3137
chol rcm B — nz = 4775
etreelot rcm B — height = 224

amd B — nz = 3137
chol amd B — nz = 3476
etreelot amd B — height = 65

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