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%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Example 3.3 %

% Monte Carlo Simulations %

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nasset=3;

%Number of assets

nsim=100;

%Number of simulations

Rmat=...

 [2.00 0.70 0.60

 0.70 1.30 0.30

 0.60 0.30 1.70];

%Correlation matrix

% 1. Cholesky decomposition of Rmat

Q=chol(Rmat);

% 2. Simulation of iid from N(0,1)

zz = normrnd(0,1, nasset,nsim);

% 3. Simulation of returns

rr=Q\*zz;

% Graph

rrr=rr';

figure; hold('on'); spessore=15; tt=1:1:size(rr,2);

plot(tt, rrr(1:nsim,1), 'b\*-',tt, rrr(1:nsim,2), 'c-',tt, rrr(:,3), 'g\*-','LineWidth', 2.5);

title('Return Simulation','Fontsize',spessore);

xlabel('Simulation','Fontsize',spessore); ylabel('Return','Fontsize',spessore);

%legend('Asset A','Asset B', 'Asset C','Location', 'northeast', 'Fontsize',spessore );

FontSizeAxes=spessore;

set(gca,'FontSize',FontSizeAxes);

set(gcf, 'PaperPositionMode', 'manual');

set(gcf, 'PaperUnits', 'centimeters');

set(gcf, 'PaperPosition', [0.5 0.5 28 20]);

set(gcf, 'PaperOrientation', 'landscape');