1. Assume the following returns time-series for 3 stocks, with regard to the last 6 months. Calculate the expected return of each stock, the standard deviation of each stock, the covariances and the correlation coefficients between all possible pairs of stocks.

	A	B	C
1	3.7%	10.5%	1.4%
2	0.4%	0.5%	14.9%
3	-6.5%	3.7%	-1.4%
4	1.4%	1.0%	10.8%
5	6.2%	3.4%	4.9%
6	2.1%	-1.4%	16.9%

Also, calculate the expected return and standard deviation of the following portfolios:

	A	B	C
Portfolio 1	1/2	1/2	
Portfolio 2	1/2		1/2
Portfolio 3		1/2	1/2
Portfolio 4	1/3	1/3	1/3

2. Assume the following data for 4 stocks:

Expected returns, variances & standard deviations			
$\bar{R}_1 = 12\%$	$\bar{R}_2 = 6\%$	$\bar{R}_3 = 14\%$	$\bar{R}_4 = 12\%$
$\sigma^2_1 = 8$	$\sigma^2_2 = 2$	$\sigma^2_3 = 18$	$\sigma^2_4 = 10.7$
$\sigma_1 = 2.83\%$	$\sigma_2 = 1.41\%$	$\sigma_3 = 4.24\%$	$\sigma_4 = 3.27\%$

Covaiances & correlations					
$\sigma_{12} = -4$	$\sigma_{13} = 12$	$\sigma_{14} = 0$	$\sigma_{23} = -6$	$\sigma_{24} = 0$	$\sigma_{34} = 0$
$\rho_{12} = -1$	$\rho_{13} = 1$	$\rho_{14} = 0$	$\rho_{23} = -1.0$	$\rho_{24} = 0$	$\rho_{34} = 0$

For the following pairs of securities, calculate the composition, standard deviation and expected return of the portfolio that has the minimum risk.

Pair	Securities
A	1 and 2
B	1 and 4
C	2 and 3
D	2 and 4
E	3 and 4