Assignment 8

> Financial Investments
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1. Consider assets A and B. Asset A is featured by a return of 5% per year and risk (measured by annualized standard deviation) of 10%. On the other hand, Asset B has 3% of return and 9% of volatility. The correlation among them is $\rho_{AB} = -0.5$. The risk-free rate of return is 2%.

    (a) Compute the Sharpe ratio for the portolio composed of 60% (of the initial wealth) in asset A and 40% in asset B.

    (b) How the results changes if $\rho_{AB} = 0$

    (c) How the results changes if $\rho_{AB} = 0.5$

2. Consider the following data of a portfolio composed by asset C and D:

Weight asset C (%)	Weight asset D (%)	Portfolio risk (%)	Portfolio return (%)
0	100	22.2	7.7
10	90	18.0	9.6
20	80	14.7	11.5
30	70	12.4	13.4
40	60	11.0	15.3
50	50	10.6	17.2
60	40	11.2	19.1
70	30	12.7	21.0
80	20	15.2	22.9
90	10	18.7	24.8
100	0	23.1	26.7

    (a) Plot the risk-return relationship for all the weight possibilities described in the above table.

    (b) What conclusion can you state?