Unit 5 - Week 3: Modern Portfolio Theory (Part 1)

Assignment 3

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-08-21, 23:59 IST.

1)

Consider an asset A whose current price is $S(0) = 100$. Suppose that the price of A at time $T = 1$ is modeled as being normally distributed with mean 105. Then the expected return (in percentage) of A in the time period $[0, 1]$ equals:

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 5

1 point

2)

Suppose that we have a portfolio comprising of 20 stocks of asset A_1 and 20 stocks of asset A_2, with the prices of the two assets (at time $t = 0$) being $S_1(0) = 30$ and $S_2(0) = 70$, respectively. Now, at time $t = 1$, if the prices of the assets become $S_1(1) = 40$ and $S_2(1) = 60$, respectively, then the increase in the weight w_1 (of asset A_1) from $t = 0$ to $t = 1$ equals:

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0.1

2 points

3)

Consider three assets A_1, A_2 and A_3, with the respective returns being the random variables K_1, K_2 and K_3 under three different economic scenarios ω_1, ω_2 and ω_1 as tabulated:

Scenario	Probability	K_1	K_2	K_3
ω_1	0.25	8%	6%	12%
ω_1	0.50	10%	7%	8%
ω_1	0.25	12%	8%	4%

Then the value of the lowest risk (in percentage) as given by the variance of returns (among the three assets) equals:

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0.005

2 points

4)

Consider a portfolio of two assets A_1 and A_2 with the expected returns being $\mu_1 = 8\%$ and $\mu_2 = 12\%$, respectively. Further, the risk (as given by standard deviation of returns) of these two assets are $\sigma_1 = 6\%$ and $\sigma_2 = 8\%$, respectively, with the correlation coefficient of the returns being $\rho_{12} = 0.1$. Then the weight of the first asset A_1 at which the portfolio attains its minimum variance equals:

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 0.63,0.69

2 points

5)

State whether the following statement is TRUE or FALSE.
Consider a portfolio of two assets A_1 and A_2, with $\sigma_1 = 12\%$, $\sigma_2 = 15\%$ and $\rho_{12} = -1$. Then it is not possible to construct a zero-risk portfolio without resorting to short selling.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) FALSE

1 point

6)

Consider two assets A_1 and A_2, with $\rho_{12} = 1$. Further the risk (as given by standard deviation of returns) for assets A_1 and A_2 are 0.3 and 0.4, respectively. If a zero risk portfolio P is constructed with these two assets, then the weight of the asset (in the portfolio P) which is not short sold equals:

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 4

1 point

7)

Write the correct option (that is, write A or B or C or D) among the four options:
Consider any portfolio lying on the minimum variance line (MVL) with the expected return being μ_{MV} and the variance of the returns being σ^2_{MV}. Now consider another portfolio with the expected return being μ_{MV} and the variance of the returns being σ^2_V. Then σ^2_{MV} is always _____ σ^2_V.

(A) less than or equal to

(B) strictly less than

(C) more than or equal to

(D) strictly more than

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) A

1 point