Assignment 12

Due on 2019-10-23, 23:59 IST.

1) Probabilistic Optimization is an optimization technique where we
   find a solution that is robust relative to data perturbation.
   
   A) True
   B) False
   C) Both A and B are true
   D) None is true

   Accepted Answers: A and B are true
   Score: 0

2) Probabilistic Optimization is an optimization technique where we
   find a solution that does not violate critical constraints.

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

3) The available classical methodologies of handling data uncertainty are: Sensitivity Analysis and Stochastic Programming.

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

4) Probabilistic nature of optimization comes from two sources: set of variables x and P, and input parameters q, where x+1 to K

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

5) Robustness estimation cannot be used when historical data contains some uncertainty.

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

6) Robustness estimation is calculated as optimal solution for all possible realization of the uncertain parameters.

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

7) Robustness can be considered as an alternative to sensitivity analysis.

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

8) Earlier robust formulation be it Beyer’s model, Ben-Tal and Nemirovsky’s model or any other; they lack basic requirements to implement better results. Choose the incorrect option

   A) They do not consider variance as a constraint as it increases computational complexity of the model by making it a semi-definite program.
   B) Variance of the portfolio is to be considered, correlation coefficients of all assets returns should be considered.
   C) Both ball and box uncertainty must be used.
   D) None of the above.

   No, the answer is incorrect.
   Score: 0

9) In robustness, estimation the nominal problem is constructed first. It is the problem which has an objective which needs to be achieved adhering to some constraints.

   A) True
   B) False
   C) Both A and B are true
   D) None is true

   No, the answer is incorrect.
   Score: 0

10) The function is said to be convex if f(x + αy) ≤ f(x) + αf(y)

    A) True
    B) False
    C) Both A and B are true
    D) None is true

    No, the answer is incorrect.
    Score: 0