- $x_i$ Binary variable where it is 1 if investment $i$ is selected, 0 otherwise, where $i = 1, 2, \ldots, 10$

- $a_i$ cost of investing into invertment $i$, where $i = 1, 2, \ldots, 10$

- $\mu_i$: expected return on investment i.

- $\sigma_i^2$: variance of the returns.

- $r$: risk parameter (=2).

- $z_j$: Binary variable where it equals 1 if scenario j is chosen, and 0 otherwise, where j = 1, 2, 3, 4

- $\epsilon$ : The tolerance for risk (=0.4)

$$\max \left( \sum_{i=1}^{10} \mu_i x_i - r \sum_{i=1}^{10} \sigma_i^2 x_i \right)$$

Subject to:

$$\sum_{i=1}^{10} \tilde{a}_i x_i \leq 1000 + (1 - z_1)M,$$

$$\sum_{i=1}^{10} \tilde{a}_i x_i \leq 1100 + (1 - z_2)M,$$

$$\sum_{i=1}^{10} \tilde{a}_i x_i \leq 900 + (1 - z_3)M,$$

$$\sum_{i=1}^{10} \tilde{a}_i x_i \leq 1200 + (1 - z_4)M,$$

$$0.55z_1 + 0.4z_2 + 0.04z_3 + 0.01z_4 \geq 1 - \epsilon,$$

$$z_1, z_2, z_3, z_4 \in (0, 1),$$

$$M = \sum_{i=1}^{10} a_i. \text{where M is 2100}$$