1.Download MySql

2.Create database by terminal

3.Import market information and position detail to database by terminal

4.Select position which violate portfolio criteria
 (1) select TOTAL_MARKET_VALUE > 5% group by Issuer
  Add alert information 'PORTFOLIO CONCENTRATION'
 (2) select DURATION > 10
  Add alert information 'DURATION'
 (3) select ISSUER_ not have 'FHLMC|FRESB|Fannie|Freddie|US TREASURY'
  or INDUSTRY_SECTOR not have 'Mortgage|Asset Backed|Government')
  or corporation bond not have S&P rating above BBB and not have Moody rating above Baa
  Add alert information 'UNQUALIFIED'

5.Calculate portfolio average rating
 (1) clean rating information
  a. delete '*+'
  b. set missing value to null
  c. set government backed bond to AAA
 (2) add rating score to table
 (3) calculate the score of each bond in portfolio
  a. count the number of missing rating in three agency
  b. three: mean, two: min, one: self
 (4) calculate market weighted average score
 (5) map S&P rating by average score
 (6) compare portfolio rating with bench

6.Output result by python in html
 (1) connect python with MySql
 (2) word wrap in one page
 (3) change the column width to max