Assignment 11

Problem 1: Let $X_1, X_2, \ldots$ be independent random variables each with mean $\mu$ and variance $\sigma^2$. Show that $\text{Var}(\sum_{i=1}^{n} X_i) = n\sigma^2$.

Problem 2: Let $Y_1, Y_2, \ldots$ be a sequence of independent random variables each with mean $\mu$ and variance $\sigma^2$. Show that $\text{Var}(\sum_{i=1}^{n} Y_i) = n\sigma^2$.

Problem 3: Let $Z_1, Z_2, \ldots$ be a sequence of independent random variables each with mean $\mu_1$ and variance $\sigma_1^2$. Show that $\text{Var}(\sum_{i=1}^{n} Z_i) = n\sigma_1^2$.

Problem 4: Let $X_1, X_2, \ldots$ be a sequence of independent random variables each with mean $\mu$ and variance $\sigma^2$. Show that $\text{Var}(\sum_{i=1}^{n} X_i) = n\sigma^2$.

Problem 5: Let $Y_1, Y_2, \ldots$ be a sequence of independent random variables each with mean $\mu$ and variance $\sigma^2$. Show that $\text{Var}(\sum_{i=1}^{n} Y_i) = n\sigma^2$.

Problem 6: Let $Z_1, Z_2, \ldots$ be a sequence of independent random variables each with mean $\mu_1$ and variance $\sigma_1^2$. Show that $\text{Var}(\sum_{i=1}^{n} Z_i) = n\sigma_1^2$.

Problem 7: Let $X_1, X_2, \ldots$ be a sequence of independent random variables each with mean $\mu$ and variance $\sigma^2$. Show that $\text{Var}(\sum_{i=1}^{n} X_i) = n\sigma^2$.

Problem 8: Let $Y_1, Y_2, \ldots$ be a sequence of independent random variables each with mean $\mu$ and variance $\sigma^2$. Show that $\text{Var}(\sum_{i=1}^{n} Y_i) = n\sigma^2$.

Problem 9: Let $Z_1, Z_2, \ldots$ be a sequence of independent random variables each with mean $\mu_1$ and variance $\sigma_1^2$. Show that $\text{Var}(\sum_{i=1}^{n} Z_i) = n\sigma_1^2$.