# Given strike-rates data

strike\_rates <- c(100, 70, 60, 90, 90)

# (a) Min-Max Normalization (Scaling between 0 and 1)

min\_val <- min(strike\_rates)

max\_val <- max(strike\_rates)

min\_max\_norm <- (strike\_rates - min\_val) / (max\_val - min\_val)

print("Min-Max Normalization:")

print(min\_max\_norm)

# (b) Z-Score Normalization

mean\_val <- mean(strike\_rates)

std\_dev <- sd(strike\_rates)

z\_score\_norm <- (strike\_rates - mean\_val) / std\_dev

print("Z-Score Normalization:")

print(z\_score\_norm)

# (c) Z-Score Normalization using Mean Absolute Deviation (MAD)

mad\_val <- mean(abs(strike\_rates - mean\_val)) # Mean Absolute Deviation

z\_score\_mad\_norm <- (strike\_rates - mean\_val) / mad\_val

print("Z-Score Normalization using MAD:")

print(z\_score\_mad\_norm)

# (d) Decimal Scaling Normalization

max\_digits <- ceiling(log10(max(abs(strike\_rates)))) # Find max number of digits

decimal\_scaling\_norm <- strike\_rates / (10^max\_digits)

print("Decimal Scaling Normalization:")

print(decimal\_scaling\_norm)