```
# Step 1: Simulate normalized expression matrix (if real data not available)
set.seed(123)  # for reproducibility
data.norm <- matrix(rnorm(54675 * 12, mean = 8.5, sd = 0.5), nrow = 54675, ncol = 12)
colnames(data.norm) <- paste0("Sample", 1:12)

# Step 2: Create Results folder
dir.create("Results", showWarnings = FALSE)

# Step 3: Generate Boxplot PDF
pdf("Results/Boxplot_After_Normalization.pdf", width = 10, height = 6)
boxplot(data.norm,
        main = "Boxplot After Normalization",
        las = 2,
        col = "lightblue",
        xlab = "Samples",
        ylab = "Log2 Expression Intensity")
dev.off()

cat("✅ Boxplot_After_Normalization.pdf generated successfully in Results folder.\n")
```