Oblig 1b: Terningdropp Analysis

Your Name

Date of Submission

1 Introduction

Briefly describe the objective of the assignment and the methods used.

2 Assignment Questions

2.1 Question 2a: First 5 Measurements Regression

```
# Linear Regression on the first 5 measurements in R
lm_first5 <- lm(Lengde ~ Dropp, data=df[1:5, ])
```

Calculated Regression Line: Include your manual calculation or calculator output here.

2.2 Question 2b: Scatter Plot of Data Points

Scatter plot of the Dropp vs Lengde data (placeholder image).

2.3 Question 2c: Regression Line Plot

Scatter plot with regression line (placeholder image).

2.4 Question 2d: Regression Analysis Entire Dataset

```
# Linear Regression on the entire dataset in R
lm_full <- lm(Lengde ~ Dropp, data=df)
```

2.5 Question 2e: Sum of Squared Residuals (SSe)

2.5.1 First 5 Measurements

```
ssr_first5 <- sum(residuals(lm_first5)^2)
```

SSR for First 5 Measurements:

$$SSR = < calculated\_value >$$

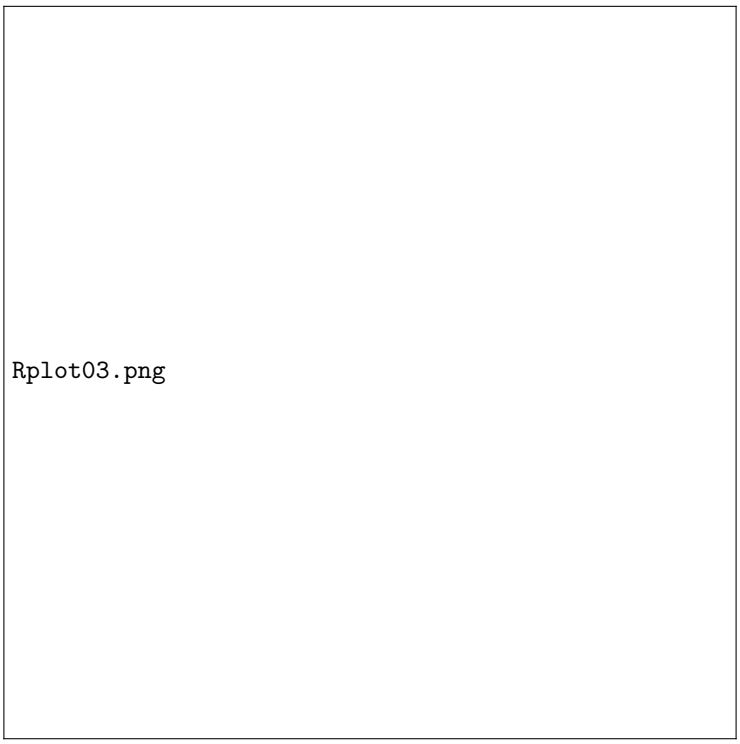

Figure 1: Scatter plot of Dropp vs Lengde

2.5.2 Entire Dataset

```
ssr_full <- sum(residuals(lm_full)^2)
```

SSR for Entire Dataset:

$$SSR = < calculated\_value >$$

2.6 Question 2f: Standard Error (se)

2.6.1 First 5 Measurements

```
se_first5 <- sqrt(ssr_first5 / lm_first5$df.residual)
```

Standard Error for First 5 Measurements:

$$SE = < calculated\_value >$$

2.6.2 Entire Dataset

```
se_full <- sqrt(ssr_full / lm_full$df.residual)
```

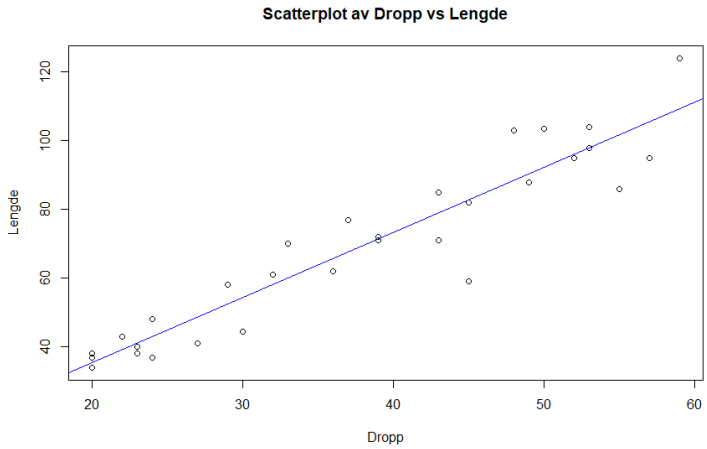

Figure 2: Scatter plot with regression line

Standard Error for Entire Dataset:

$$SE =< calculated\_value >$$

3 Conclusion

Summarize your findings and observations from the assignment.