````
---
title: "midverk7"
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date: "2024-03-20"
output: html_document
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```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
```

```{r}
library(ggplot2)
```

# 1
```{r}
data_url <- "https://ahj.hi.is/alcho.txt"
data_df <- read.csv(data_url, header = TRUE)

```

# 2
```{r}
ggplot(data_df, aes(x = thyngd, y = alk)) +
  geom_point() +
  labs(title = "Scatter plot of alk Content vs. thyngd",
       x = "thyngd (kg)",
       y = "alk Content")
```

# 3
```{r}
lm_model <- lm(alk ~ thyngd, data = data_df)
summary(lm_model)
```

# 4
```{r}
ggplot(data_df, aes(x = thyngd, y = alk)) +
  geom_point() +
  geom_smooth(method = "lm", col = "blue") +
  labs(title = "Scatter plot of alk Content vs. thyngd with Regression Line",
       x = "thyngd (kg)",
       y = "alk Content")
```

# 5
```{r}
qqnorm(residuals(lm_model))
qqline(residuals(lm_model), col = "red")
```

# 6
```{r}
predict(lm_model, newdata = data.frame(thyngd = 60), interval = "prediction", level = 0.95)
```
````