sales

```
sales <- read_csv("sales.csv")
```

```
## New names:
## Rows: 100 Columns: 6
## -- Column specification
## -------------------------------------------------------- Delimiter: "," chr
## (2): Product, Quarter dbl (3): Units Sold, Revenue, ...6 lgl (1): ...5
## i Use `spec()` to retrieve the full column specification for this data. i
## Specify the column types or set `show_col_types = FALSE` to quiet this message.
## * `` -> `...5`
## * `` -> `...6`
```

```
glimpse(sales)
```

```
## Rows: 100
## Columns: 6
## $ Product      <chr> "Laptop", "Laptop", "Laptop", "Laptop", "Laptop", "Laptop~
## $ Quarter      <chr> "Q1", "Q1", "Q1", "Q1", "Q1", "Q1", "Q1", "Q1", "Q1", "Q1~
## $ `Units Sold` <dbl> 47, 12, 23, 3, 20, 35, 27, 19, 31, 18, 49, 47, 12, 4, 1, ~
## $ Revenue      <dbl> 53119.21, 11776.02, 19924.71, 2303.86, 13007.94, 23567.42~
## $ ...5         <lgl> NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, N~
## $ ...6         <dbl> NA, 239021.1, NA, 347.0, NA, NA, NA, NA, NA, NA, NA, 2114~
```

```
total_revenue <- sum(sales$Revenue, na.rm = TRUE)
total_units <- sum(sales$`Units Sold`, na.rm = TRUE)

cat("**Total Revenue:** $", formatC(total_revenue, format = "f", big.mark = ",", digits = 2), "\n")
```

```
## **Total Revenue:** $ 2,114,771.95
```

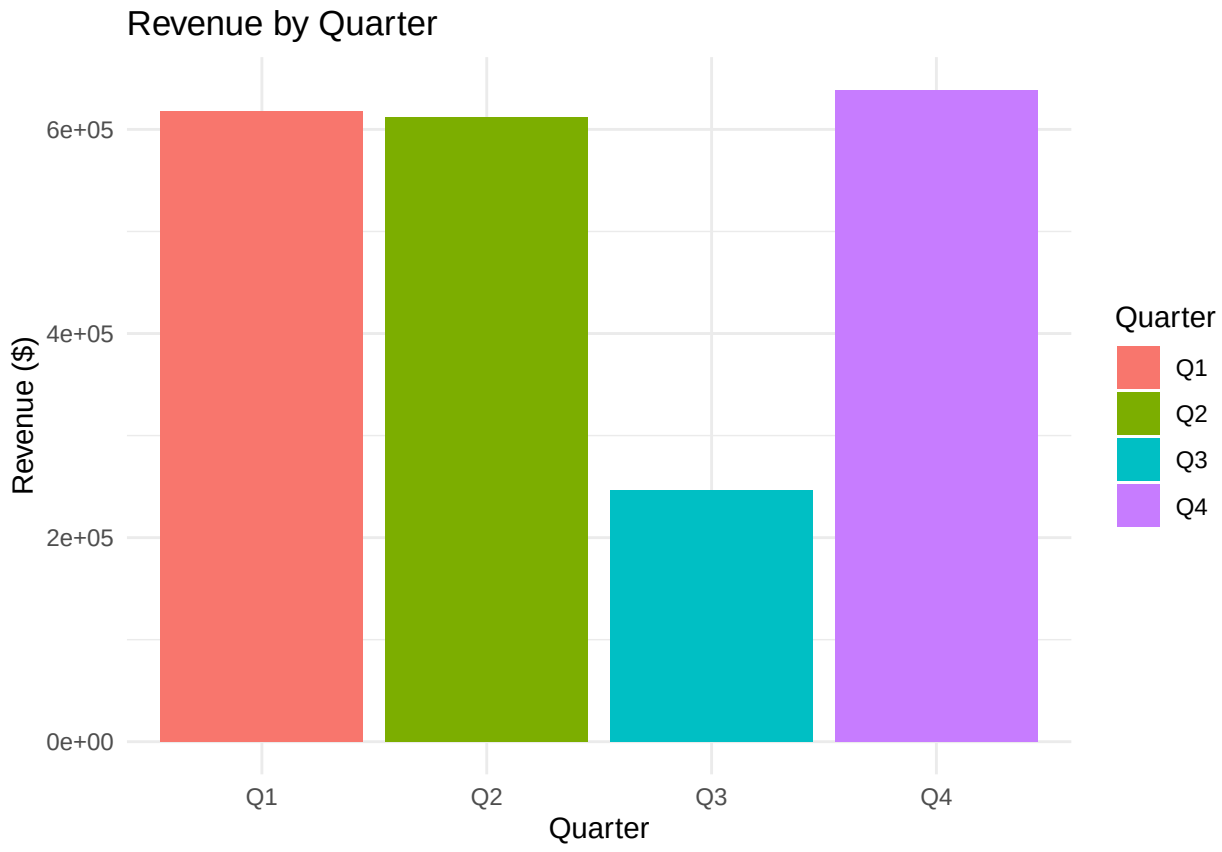
```
cat("**Total Units Sold:**", total_units, "\n")
```

```
## **Total Units Sold:** 2535
```

```
sales %>%
  group_by(Product) %>%
  summarise(
    Total_Revenue = sum(Revenue, na.rm = TRUE),
    Total_Units = sum(`Units Sold`, na.rm = TRUE)
  ) %>%
  arrange(desc(Total_Revenue)) %>%
  knitr::kable()
```

Product	Total_Revenue	Total_Units
Laptop	717184.6	975
Smartphone	712706.9	812
Tablet	684880.4	748

```
sales %>%
  group_by(Quarter) %>%
  summarise(Quarterly_Revenue = sum(Revenue, na.rm = TRUE)) %>%
  ggplot(aes(x = Quarter, y = Quarterly_Revenue, fill = Quarter)) +
  geom_col() +
  labs(title = "Revenue by Quarter", y = "Revenue ($)", x = "Quarter") +
  theme_minimal()
```




```
sales %>%
  group_by(Product) %>%
  summarise(
    Avg_Units = mean(`Units Sold`),
    Avg_Revenue = mean(Revenue)
  ) %>%
  arrange(desc(Avg_Revenue)) %>%
  knitr::kable()
```

Product	Avg_Units	Avg_Revenue
Tablet	26.71429	24460.01
Smartphone	26.19355	22990.55
Laptop	23.78049	17492.31

```
correlation <- cor(sales$`Units Sold`, sales$Revenue, use = "complete.obs")
cat("Correlation between Units Sold and Revenue: ", round(correlation, 2))
```

```
## Correlation between Units Sold and Revenue:  0.76
```

```
model <- lm(Revenue ~ `Units Sold` + Quarter + Product, data = sales)
summary(model)
```

```
##
## Call:
## lm(formula = Revenue ~ `Units Sold` + Quarter + Product, data = sales)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -29923.0  -6455.9   -432.4   5709.0  24914.7
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -73.71    2984.20  -0.025   0.9803
## `Units Sold`        755.28      71.38  10.580   <2e-16 ***
## QuarterQ2         -1817.79    2864.60  -0.635   0.5273
## QuarterQ3         -2152.56    3473.47  -0.620   0.5370
## QuarterQ4          1638.66    3049.57   0.537   0.5923
## ProductSmartphone  3913.82    2599.09   1.506   0.1355
## ProductTablet      5057.81    2704.43   1.870   0.0646 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10820 on 93 degrees of freedom
## Multiple R-squared:  0.5963, Adjusted R-squared:  0.5703
## F-statistic:  22.9 on 6 and 93 DF,  p-value: < 2.2e-16
```