SEC-1-FA2-GROUP-1-SIGUE,-JP-FA2

Github: https://github.com/PatrickSigue/APM1110/blob/main/FA2/SEC-1-FA2-GROUP-1-SIGUE%2C-JP-FA2.md

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2025-02-07

3. An experiment consists of rolling a die. Use R to simulate this experiment 600 times and obtain the relative frequency of each possible outcome.

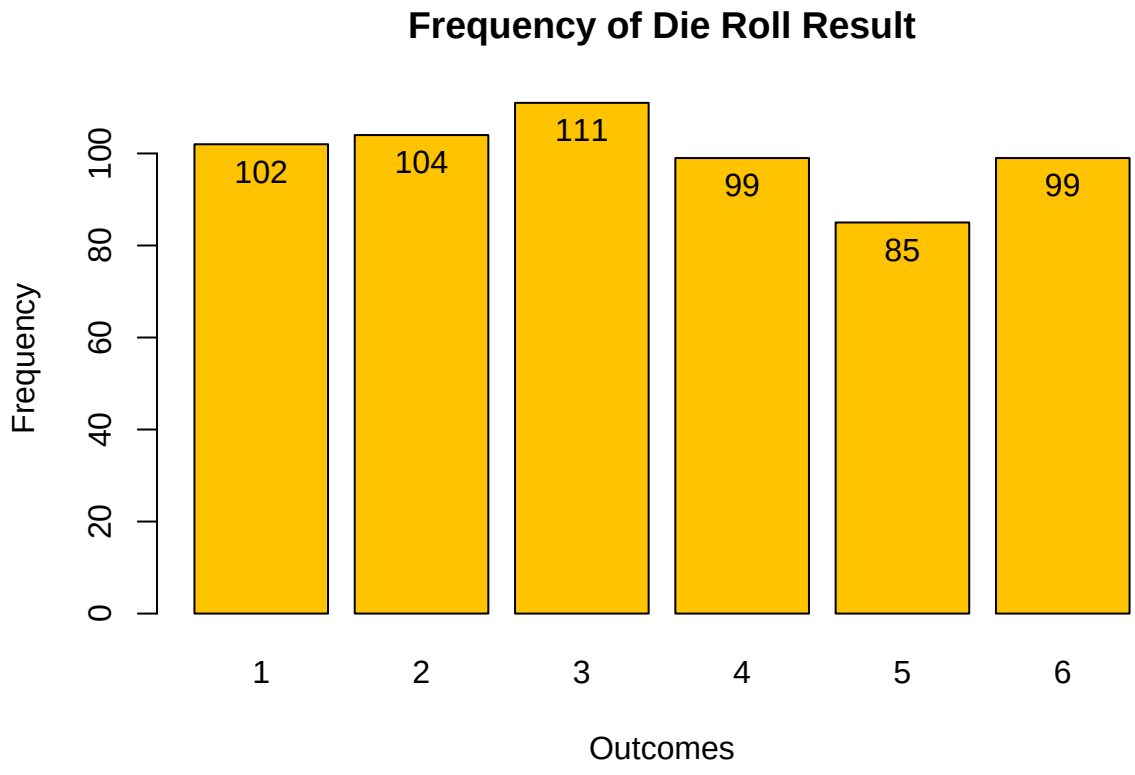
```
possible <- c(1,2,3,4,5,6)

experiment <- sample(possible, 600, replace = TRUE)

results <- data.frame(
           Outcome = possible,
           Frequency = c(sum(experiment == 1), sum(experiment == 2), sum(experiment == 3),
                         sum(experiment == 4), sum(experiment == 5), sum(experiment == 6)))

brplt <- barplot(results$Frequency, names.arg = possible, main = "Frequency of Die Roll Result",
        xlab = "Outcomes", ylab = "Frequency", ylim = c(0,max(results$Frequency)), col = "#FFC300")

text(brplt, results$Frequency, labels = results$Frequency,
     cex = 1, pos = 1)
```



Hence, estimate the probability of getting each of 1, 2, 3, 4, 5, and 6.

```r
rel_freq <- round(results$Frequency / 600 * 100, 2)

relative_frequency <- data.frame(Outcomes = c(possible, "Total"),
                      "Probability(%)" = c(rel_freq, sum(rel_freq)))

print(relative_frequency)
```

```
##   Outcomes Probability...
## 1        1          17.00
## 2        2          17.33
## 3        3          18.50
## 4        4          16.50
## 5        5          14.17
## 6        6          16.50
## 7    Total         100.00
```