2. An experiment consists of tossing two fair coins. Use R to simulate this experiment 100 times and obtain the relative frequency of each possible outcome. Hence, estimate the probability of getting one head and one tail in any order.

```
Coin_Toss <- sample(2, size = 100, replace = T)
result <- table(Coin_Toss)/length(Coin_Toss)
rounded <- round(result, 4)
names(rounded) <- c("Head", "Tail")
rounded
```

```
## Head Tail
## 0.51 0.49
```

From a sample size of 100, heads and tails had very close relative frequencies, it can be seen that the probability of Head vs Tail on a fair coin is 1/2.

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

```
Dice_Rolls <- sample(6, size = 600, replace = T)
result <- table(Dice_Rolls)/length(Dice_Rolls)
rounded <- round(result, 4)
rounded
```

```
## Dice_Rolls
##      1      2      3      4      5      6
## 0.1650 0.1533 0.1617 0.2033 0.1750 0.1417
```

Looking at the data, it seems that, as expected, the probability of all results from 1-6 are very close and have only small deviations with each other. When taking their average, we get 0.1666667 which is 16.666. . . % which is 1/6.

Github Link: https://github.com/SylTana/APM1110-QUIJANO-JULIAN_PHILIP/tree/main/FA2