

Cmd 1



databricks

Academy

Cmd 2


Discrete Probability

Objective: Use the basic rules of discrete probability to complete a series of exercises.

In this lab, you will complete a series of exercises about the basic rules of discrete probability.

Use the following rules to complete the exercises below:

- Additive rule of probability: $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$
- Multiplicative rule of probability: $P(A \text{ and } B) = P(A) * P(B)$

 **Hint:** Python can be used as a calculator. Please use Python to complete the following exercises, like below.

Cmd 3

```
1 %python
2 1/4 + 1/4
```

Exercise 1

Compute the probability of rolling a 2, 4, or 5 when rolling a single, six-sided die.

Cmd 5

```
1 %python
2 # ANSWER
3 1/6 + 1/6 + 1/6
```

Exercise 2

Compute the probability of rolling a 2 and then a 6 when rolling a pair of dice.

Cmd 7

```
1 %python
2 # ANSWER
3 (1/6) * (1/6)
```

Exercise 3

Compute the probability of randomly selecting a Queen or King from a standard deck of cards.

Cmd 9

```
1 %python
2 # ANSWER
3 (1/13) * (1/13)
```

Exercise 4

Compute the probability of flipping a coin twice with it landing on heads the first time and tails the second time.

Cmd 11

```
1 %python
2 # ANSWER
3 (1/2) * (1/2)
4
```

