

# Lab 3

Duke STA 240 Fall 2025

replace this text with your name

In what follows, you may find some notation useful. Let  $D$  denote your true disease status, and  $T$  denote the result of your test. Then

$$\begin{aligned} p &= P(D = +) \\ f_- &= P(T = -|D = +) \\ f_+ &= P(T = +|D = -) \\ 1 - f_- &= P(T = +|D = +) \\ 1 - f_+ &= P(T = -|D = -). \end{aligned}$$

## Task 1

You can write text here.

```
# You can add code here
```

You can type math here:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}.$$

## Task 2

You can write text here.

```
# You can add code here
```

You can type math here:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}.$$

## Task 3

You can write text here.

```
# You can add code here
```

You can type math here:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}.$$

## Task 4

You can write text here.

```
# You can add code here
```

You can type math here:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}.$$

## Task 5

You can write text here.

```
# You can add code here
```

You can type math here:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}.$$