Assignment – Rust Structs and Methods

# **Queen Attack!**

[T5]

Given the position of two queens on a chess board, indicate whether or not they are positioned so that they can attack each other. In the game of chess, a queen can attack pieces which are on the same row, column, or diagonal. A chessboard can be represented by an 8 by 8 array. The rows of a chessboard are known as ranks and columns are known as files. So if you're told the white queen is at (2, 3) and the black queen at (5, 6), then you'd know you've got a set-up like so:

A picture containing background pattern

Description automatically generatedYou'd also be able to answer whether the queens can attack each other. In this case, that answer would be yes, they can because both pieces share a diagonal.

## Examples of queens attacking:

Table

Description automatically generated with medium confidence

## Examples of queens not attacking:

Table, calendar

Description automatically generated

# **Task**

1. Complete the starter code for the Queen, provided in class *(covering the case of a Rook)*. Provide a **main()** function that indicates two examples: one where the queens can attack and one whether they cannot attack.
2. Add code and two examples for a **Bishop**.
3. Add code and two examples for a **King**.

[T5]

# Conversation

[A10]

* On Thursday, I will be having a one-on-one discussion with you about your program. I will be asking you questions about your code and its meaning.

# Communication

[C5]

* Your code should contain variables that are named appropriately, so that their name indicates their meaning.
* Comments should be included that describe the meaning of different sections of code
* In Rust, the convention for **variable** and **method** names is that they should follow the **snake\_case** format. The first character should be **lowercase** with additional words **separated by an underscore character**. For example, money\_earned, first\_name. The **UpperCamelCase** format is used for types: e.g. ChessPosition.