

Rust
COMP 4210
Spring 2026

Assignment 1

Write implementations of the following Rust functions:

```
fn between(n: i32, a: i32, b: i32, outside_mode: bool) -> bool {  
    // returns true if  $a \leq n < b$ , unless outside_mode is true  
    // in that case it returns true if  $n < a$  or  $b \leq n$ 
```

```
fn distance(p1: (f64, f64), p2: (f64, f64)) -> f64 {  
    // returns the Euclidean distance between points p1 and p2  
    // hint: use the distance formula derived from the Pythagorean theorem
```

```
fn belowAverage(arr: &mut [i32]) -> i32 {  
    // returns the number of elements in array arr that are less than the  
    // average of all the elements in arr
```

Finally, place these three functions in a single file that also has a main function that tests each function with at least three test cases each.

DUE: Monday, January 26 by 11:59 pm