

# ECE326 – Fall 2019: Week 10 Exercise Questions

## 1. True or False [1 mark each]

Circle T is true, otherwise circle F for false.

1. It is not possible to cause infinite recursion when working with variadic template.    **T**    **F**
2. In general, arguments to variadic functions are not type-checked.    **T**    **F**
3. In Rust, name aliasing is not allowed.    **T**    **F**
4. Rust is strongly typed.    **T**    **F**
5. In Rust, ownership is a mechanism to check for memory leaks at runtime.    **T**    **F**
6. The major disadvantage of Rust is that it automatically adds runtime type safety checks, which negatively affects its runtime performance.    **T**    **F**

## 2. Short Answer [5 marks]

What's the difference between the following two sets of statements?

```
// set 1
let x = 5;
let x = x + 2;
let x = x * 3;
```

```
// set 2
let mut x = 5;
x = x + 2;
x = x * 3;
```

## 3. Variadic Template [10 marks]

Write a variadic template that calculates the population variance of a set of values. The return type of the template should always be double, but the template arguments can take any numeric type.

<https://en.wikipedia.org/wiki/Variance>