



## **Homework #12**

**01286120 Elementary Systems Programming**

**Software Engineering Program**

**Faculty of Engineering, KMITL**

By

66011149 Phatthadon Sornplang

## 1. Adding more shape types

1.1) Extend the enumeration Shape from the Lab Exercise 3.1) by adding a variant for Triangle and extending the method rep\_string for formatting a string representation of the shape and the method area for calculating an area of the shape to support operations on the Triangle variant. The Triangle variant will be defined by three points with coordinates (x1, y1) , (x2, y2) , and (x3, y3) .

```
Compiling q1 v0.1.0 (C:\Users\phatt\Desktop\Code Files\Rust\Lab_12\HW\q1)
Finished test [unoptimized + debuginfo] target(s) in 0.45s
Running unittests src\bin\q1_1.rs (target\debug\deps\q1_1-4b1cb5ba5f622e15.exe)

running 1 test
test test_shapes ... ok

test result: ok. 1 passed; 0 failed; 0 ignored; 0 measured; 0 filtered out; finished in 0.00s
```

1.2) Add an implementation of the trait Shape from the Lab Exercise 3.2)-3.4) for the Triangle type, which is defined by three points with coordinates (x1, y1) , (x2, y2) , and (x3, y3) (as in 1.1)). Additionally, you must implement the constructor Triangle::new and the method Triangle::rep\_string and Triangle::area . Finally, make sure that you can still make a clone out of a list of shapes stored in Vec<Box> .

```
Finished test [unoptimized + debuginfo] target(s) in 0.00s
Running unittests src\bin\q1_2.rs (target\debug\deps\q1_2-70b4a437097cd830.exe)

running 1 test
test test_shapes_003 ... ok

test result: ok. 1 passed; 0 failed; 0 ignored; 0 measured; 0 filtered out; finished in 0.00s
```

## 2. Adding more string compositions

2.1) Extend the enumeration Text from the Lab Exercise 4.1) by adding a variant for Joined and extending the method value for joining a list of string with some separator.

```
Finished test [unoptimized + debuginfo] target(s) in 0.00s
Running unittests src\bin\q2_1.rs (target\debug\deps\q2_1-b454dfbcb18402b7.exe)

running 1 test
test test_text_composition ... ok

test result: ok. 1 passed; 0 failed; 0 ignored; 0 measured; 0 filtered out; finished in 0.00s
```

2.2) Extend the program from the Lab Exercise 4.2), by adding an implementation of the trait Text for PlainText , RepeatedText , and JoinedText . Additionally, you must implement the constructor JoinedText::with\_parts and the method JoinedText::value , and JoinedText::clone\_box .

```
Finished test [unoptimized + debuginfo] target(s) in 0.00s
Running unittests src\bin\q2_2.rs (target\debug\deps\q2_2-229d82ec0683ae0c.exe)

running 1 test
test test_text_composition ... ok
```