Collection Protocols

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Collection Protocols

Protocol	Implementing Collections
Container	`str list range tuple bytes dict set frozenset`
Sized	`str list range tuple bytes dict set frozenset`
Iterable	`str list range tuple bytes dict set frozenset`
Sequence	`str list range tuple bytes`
Set	`set frozenset`
Mapping	`dict`
Mutable Sequence	`list`
Mutable Set	`set`
Mutable Mapping	`dict`

Protocols

- To implement a protocol, objects must support certain operations.
- Most collections implement *container, sized*, and *iterable*.
- All except dict, set and frozenset are *sequences*.

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Container Protocol

- Membership testing using the `in` and `not in` operators.

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Sized Protocol

- Determine the number of elements with `len(s)`

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Iterable Protocol

- Can produce an iterator with `iter(s)`

```
for item in iterable:
    do_something(item)
```

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Sequence Protocol

- Retrieve elements by index

```
item = seq[index]
```

- Find items by value

```
index = seq.index(item)
```

- Count items

```
num = seq.count(item)
```

- Produce a reversed sequence

```
r = reversed(seq)
```

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Set Protocol

Set algebra operations

(methods and infix operators)

- subset
- proper subset
- equal
- not equal
- proper superset
- superset
- intersection
- union
- symmetric difference
- difference

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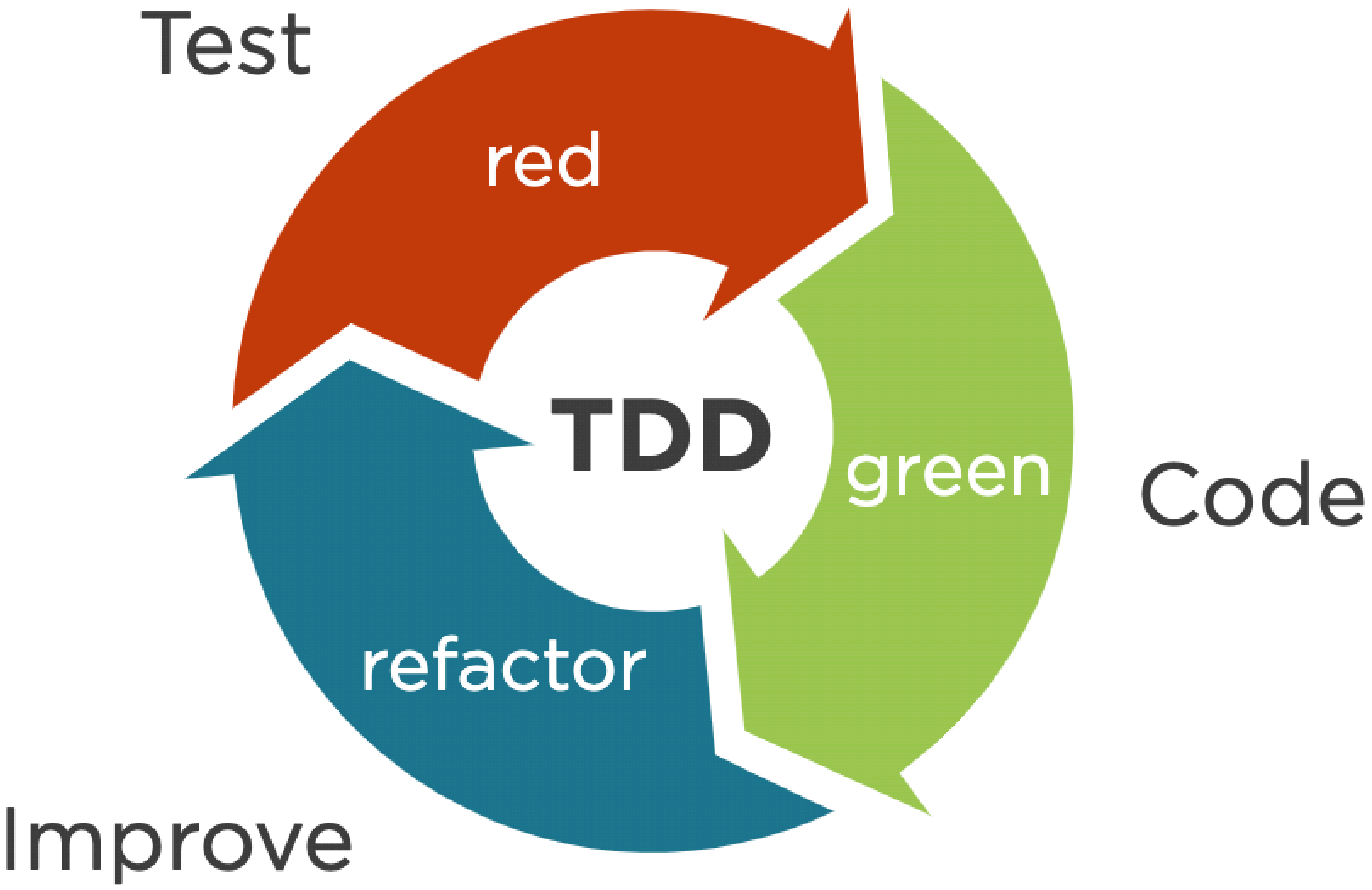
Let’s build a

SortedFrozenSet

A collection which is a sized, iterable, sequence container of a set of distinct items, and constructible from an iterable

Test Driven Development


Test
red
TDD
green
Code
refactor
Improve