

Exercise 3

- Write a function to decode the returned string and create two numpy arrays time & voltage (< 20 lines)

```
def decode(trc):
    """Quick and dirty Lecroy TRC format decoder."""
    start = trc.find('WAVEDESC')
    trc = trc[start:]
    nb_of_points = np.fromstring(trc[60:64], dtype=np.uint32)
    voltage_gain = np.fromstring(trc[156:160], dtype=np.float32)
    voltage_offset = np.fromstring(trc[160:164], dtype=np.float32)
    horiz_interval = np.fromstring(trc[176:180], dtype=np.float32)
    horiz_offset = np.fromstring(trc[180:188], dtype=np.float64)
    voltage = np.fromstring(trc[346:],
                           dtype=np.int8, count=nb_of_points).astype(np.float)
    voltage *= voltage_gain
    voltage += voltage_offset
    time = np.arange(nb_of_points, dtype=np.float)
    time *= horiz_interval
    time += horiz_offset
    return time, voltage
```

See decode.py

Exercise 4

- Write a LecroyScope class with a fetchwaveform method that returns two numpy arrays (< 30 lines)

```
class LecroyScope(vx11.Instrument):
    def fetchwaveform(self, channel):
        trc = self.ask_raw('C{0}:WF?'.format(channel))
        return self.decode(trc)

    def decode(self, trc):
        """Quick and dirty Lecroy TRC format decoder."""
        # See Exercise 3
        return time, voltage
```

See scope.py