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CERN

Pension fund

CERNs
problem



CERNs *Solution*



“QF-Lib is an **open source** python library with a set of high quality tools for quantitative finance”

- QF-Lib website

CERNs
Solution



€ 10_M

CERNs
Solution



€ 10_M

▲ 70%*

**Over 2.5 years*

CERNs
Solution



€ 10_M

▲ 70%*

€ 17_M

**Over 2.5 years*

Applications



Commodity traders



Intraday-trading platforms



Institutional investors



Family offices



Educational institutions

Applications



Commodity traders



Intraday-trading platforms



44 phone calls

Institutional investors



53 phone calls

Family offices



Educational institutions

Applications



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Educational institutions

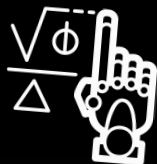
 ***Education***

“

*We are struggling with finding
candidates with competence
within **both tech and finance**”*

- Nordea

Why is that?



“

*I see a larger number of students
that take courses on Python,
while **nobody would get
training in the language R.***

- NTNU

User needs

User friendly

User needs

User friendly

Customizable

User needs

User friendly

Customizable

Flexible

User needs

User friendly

Handle large datasets

Customizable

Flexible

Jupyter Ideel gasslov (unsaved changes) Logout Control Panel

File Edit View Insert Cell Kernel Help Not Trusted | Python 3

Øving 7

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[Strenghåndtering](#)
[Innebygde funksjoner og lister](#)
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[Sammenhengende Tallrekke](#)
[Sortering](#)
[Strengmanipulasjon](#)
[Kryptering](#)
[Litt Sjakk](#)

```

class CustomRegularTimeEvent(RegularTimeEvent):
    """
    Rule which is triggered every Monday at 8:15 a.m.
    The listeners for this event should implement the
    on_monday_morning() method.
    """

    _trigger_time_dict: Dict[str, int] = {
        "weekday": 0, "hour": 8, "minute": 15,
        "second": 0, "microsecond": 0
    }

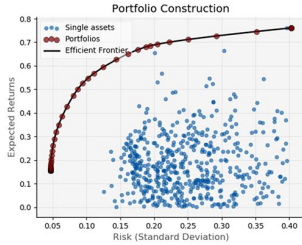
    _time_rule = RegularTimeRule(**trigger_time_dict)

    @classmethod
    def trigger_time(cls) -> RelativeDelta:
        return RelativeDelta(**cls.trigger_time_dict)

    def next_trigger_time(self, now: datetime) -> datetime:
        next_trigger_time = self._time_rule.next_trigger_time(
            now)
        return next_trigger_time

    def notify(self, listener) -> None:
        listener.on_monday_morning(self)
    
```

Construct ▶



a)

Lag funksjonen `p_ig(t, v, n, rgas=8.31452)` som tar inn argumentene `t` (temperatur), `v` (volum), `n` (antall mol) og konstanten `rgas` (`R`). Funksjonen skal

Earning
potential

600 Universities (EU & US)

Earning
potential

600 Universities (EU & US)
3 Licences per University

Earning
potential

600 Universities (EU & US)
3 Licences per University
€ 20 000 per licence

Earning
potential

600 Universities (EU & US)
3 Licences per University
€ 20 000 per licence

€ 36M

Substitutes & competitors



Quantopian



QuantLib

Customers

***Decision
makers***

Users

Universities

***Head of
programs***

***Students and
professors***

International sales process

Solution development

The team

Thank you Marcin.



Thank you CERN.

QF-Lib