how to detect alignment of RPKI certificates and registry (sub)accounts

Summary: the pipeline in one go

```
# for some certificate e.g. ./Y1vTOT_M9475iEK4qDNIlUnlneM.cer
./readwhichopenssl.py ./Y1vTOT_M9475iEK4qDNIlUnlneM.cer | \
./delegfilter.py -s, -t cc,orgid -n 3 | \
cut -d, -f6 | sort | uniq -c | sort -nr
```

Dependencies

this code is for python3 and depends on the py-radix module

```
pip3 install py-radix
```

Process

1. fetch the repository

```
rsync --delete -az rpki.cnnic.cn::rpki cnnic/
```

2. extract list of resources per certificate

by hand:

```
$ openssl x509 \         -inform DER \         -noout \         -text
\         -in ./Y1vTOT_M9475iEK4qDNIlUnlneM.cer
```

scripted:

```
./readwhichopenssl.py ./Y1vTOT_M9475iEK4qDNIlUnlneM.cer \         >
./Y1vTOT_M9475iEK4qDNIlUnlneM.inr.txt
```

This generates data of the form:

```
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:d480::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:d580::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:d680::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:d780::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:d880::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:d980::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:da80::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:db80::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:dc80::/
```

3. filter the prefixes by RIR delegated file to tag by opaque-id field

the python program uses 0.. index fields so the field is 3, not 4.

```
./delegfilter.py -s, -t cc,orgid -n 3 \
    < Y1vTOT_M9475iEK4qDNIlUnlneM.inr.txt \
    > Y1vTOT_M9475iEK4qDNIlUnlneM.inr.orgid.txt
```

This generates data of the form:

```
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:f680::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:f780::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:f880::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:f980::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:fa80::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:fb80::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:fc80::/
./Y1vTOT_M9475iEK4qDNIlUnlneM.cer,635BD3393FCCF78EF98842B8A833489549E59DE3,IPv6,2407:fd80::/
```

4. collate by opaque-id, count..

cut uses 1.. index fields so the field on output is 6 not 5

```
cut -d, -f6 < Y1vTOT_M9475iEK4qDNIlUnlneM.inr.orgid.txt | \
    sort | \
    uniq -c |\
    sort -nr \
    > Y1vTOT_M9475iEK4qDNIlUnlneM.orgid.counts.txt
```