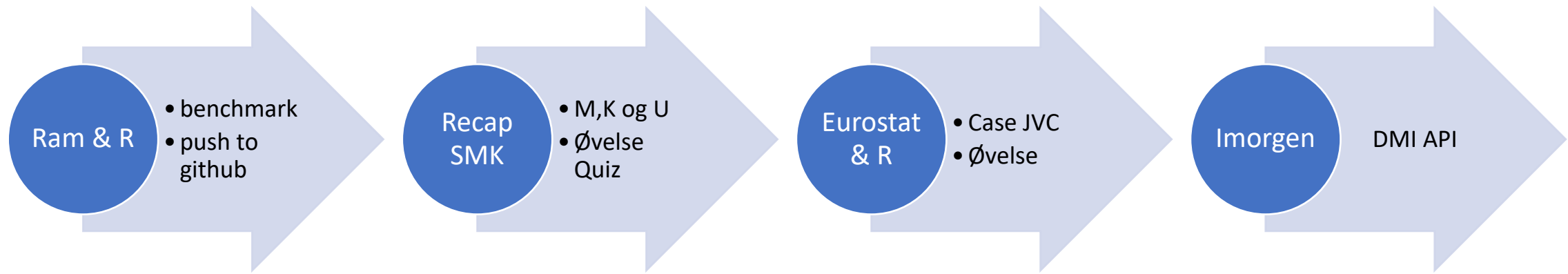


Dataanalyse

API – recap og Eurostat



Getting started

– your computer

	user	system	elapsed	test	test_group	cores
1	0.722	0.007	0.732	manip	matrix_cal	0
2	0.721	0.014	0.740	manip	matrix_cal	0
3	0.569	0.009	0.588	manip	matrix_cal	0
4	0.185	0.001	0.187	power	matrix_cal	0
5	0.188	0.002	0.193	power	matrix_cal	0
6	0.182	0.001	0.184	power	matrix_cal	0
7	0.762	0.002	0.765	sort	matrix_cal	0
8	0.806	0.010	0.840	sort	matrix_cal	0
9	0.773	0.003	0.780	sort	matrix_cal	0
10	11.843	0.162	12.802	cross_product	matrix_cal	0
11	11.059	0.029	11.107	cross_product	matrix_cal	0
12	12.039	0.138	12.423	cross_product	matrix_cal	0
13	0.986	0.010	1.008	lm	matrix_cal	0
14	0.958	0.007	0.971	lm	matrix_cal	0
15	0.932	0.004	0.940	lm	matrix_cal	0

benchmarkme

- get_cpu og ram
- kør benchmark_matrix_cal() og gem i en variabel

```
$vendor_id  
[1] "GenuineIntel"  
  
$model_name  
[1] "Intel(R) Core(TM) i7-6700HQ CPU @ 2.60GHz"  
  
$no_of_cores  
[1] 8
```

OUTPUT TIL SIDST:

	user	ram	cpumodel	cpu hastighed	cores	crossprodl	lml	sortl
1	kurt	17179869184	Intel(R) Core(TM) i7-6700HQ CPU	2.60GHz	8	0.7619999999999986	11.843	0.985999999999999

Moving on

	user	ram	cpumodel	cpuastighed	cores	crossprodl	lml	sortl
1	cphwiho	8589934592	Intel(R) Core(TM) i5-8210Y CPU	1.60GHz	4	11,552	0,943	0,775
2	Andreas	8589934592	Apple M1	3.2	8	7,8	0,603	0,62
3	Diana	17179869184	Intel(R) Core(TM) i5-1038NG7 CPU	2.00GHz	8	13.08	14.27	895.000.000.000.003
4	Sara Hassouni	8.589.934.592,00	Intel(R)	2,00	4,00	13,95	1,20	0,85
5	Louise	8,9GB	Intel(R) Core(TM) i5-1030NG7 CPU	1.10 GHz	8	10,932	0,775	1,04
6	Elias	8,9GB	Intel(R) Core(TM) i7-7500U()	2.70GHz	4	10,36	0,9	0,72
7	Sara	4,29	Intel(R) Core(TM) i3-7100U	2,4	4	15,61	1,18	1,08
8	Christian R	17,2 GB	Intel(R) Core(TM) i5-3210M	2.50GHz	4	8,691	0,81	0,75
9	Christian Haake	8589934592	Intel(R) Core(TM) i5-8300H	2.3	8	18.15	01.37	01.19
10	muzza	16 GB	AMD Ryzen 9 5900hx	3.3 GHz	8	6,12	0,5	0,66
11	Mohamad	4606352425	GenuineIntel" "Intel(R) Pentium(R) Silver N5030 CPU	1.10GHz	4	15,16	1,27	0,86
12	RV	8,59	i5-8265U	1.6	8	14.2	1,3	1,29
13	Calvin	33,7 GB	Intel(R) Core(TM) i7-6820HQ CPU	2.70GHz	8	10,11	0,74	0,83
14	Nico	8589934592	Intel(R) Core(TM) i5-4200H CPU	2.80GHz	4	8,24	0,639	0,659
15	Claes	16	AMD Ryzen 5 3500U Vega Mobile Gfx 2.10 GHz	2.1GHz	4	7,62	0,65	0,84
16	Rasmus	8	Intel(R) Core(TM) i5-7360U CPU	2.3 GHz	4	0,76		
17	Nadia	8589934592	11th Gen Intel(R) Core(TM) i5-1135G7	2.40GHz	8	7,91	0,64	0,55
18	Malthe	16 GB	Intel(R) Core(TM) i7-9750H CPU	2.60GHz	12	9,637	0,9639	0,6659
19	Daniel	8589934592	Intel(R) Core(TM) i7-5650U CPU	2,2GHz	4			
20	Benjamin	8.59 GB	Intel(R) Core(TM) i5-7300HQ CPU	2.50GHz	4	0,68	10,39	0,84
21	Elon Musk	100	Intel Tesla	20GHz	666			
22	Anton	8 GB	Apple M1	3,2GHz	8	7,159	0,598	0,623

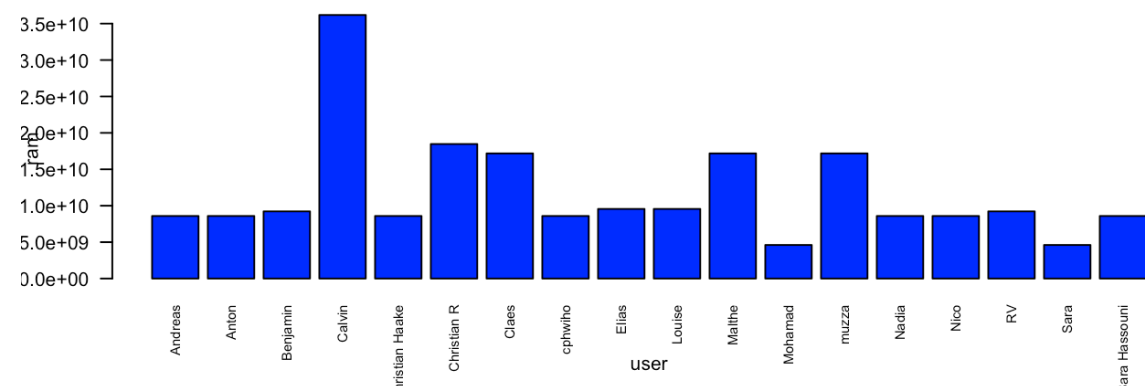
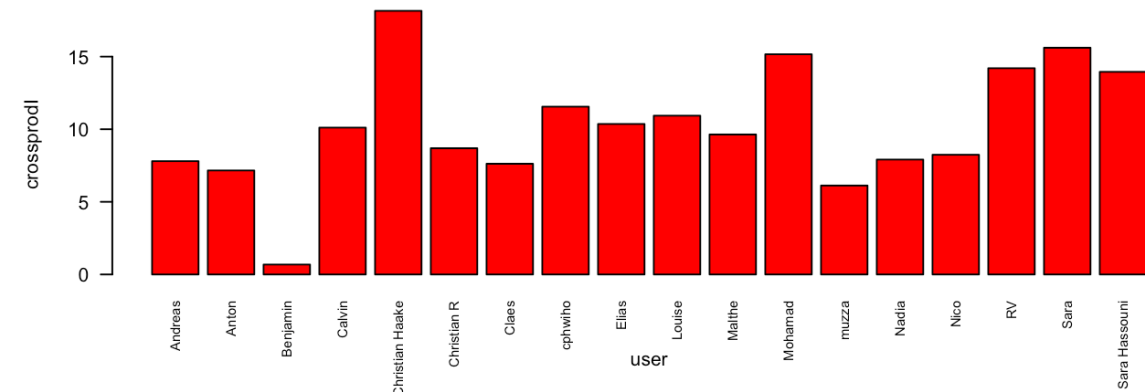
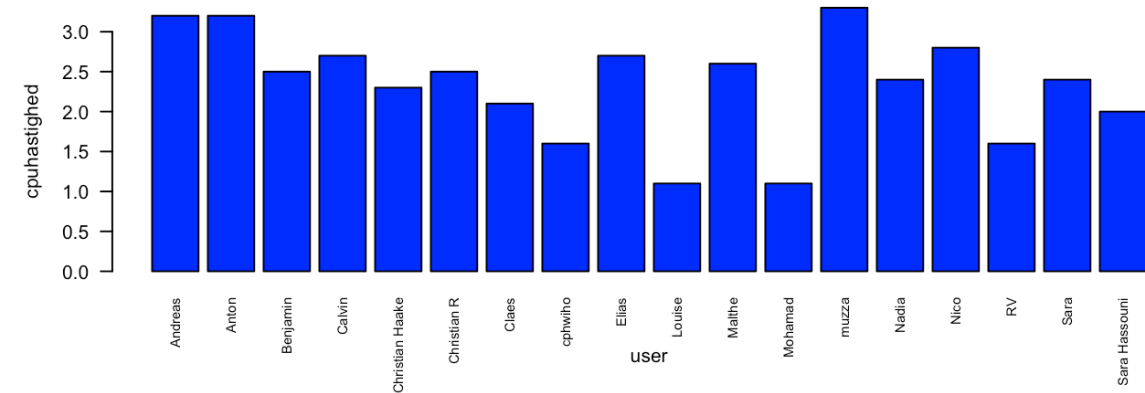
Get all numeric fields as.numeric

- Alle “,” til “.”
 - fix Sara
 - lapply med gsub
- Fix cpuhast
 - Fjern alle GHz
 - lapply med gsub
- Fix ram
 - lav funktion
 - if GB så til bytes
 - else if lille tal så til bytes
 - else bare ok
 - return value
- Fix resten
 - lapply is.numeric på alt
 - omit.na

	user	ram	cpumodel	cpuhastighed	cores	crossprodl	lml	sortl
1	cphwiho	8589934592	Intel(R) Core(TM) i5-8210Y CPU	1.60GHz	4	11,552	0,943	0,775
2	Andreas	8589934592	Apple M1	3.2	8	7,8	0,603	0,62
3	Diana	17179869184	Intel(R) Core(TM) i5-1038NG7 CPU	2.00GHz	8	13.08	14.27	895.000.000.000.003
4	Sara Hassouni	8.589.934.592,00	Intel(R)	2,00	4,00	13,95	1,20	0,85
5	Louise	8,9GB	Intel(R) Core(TM) i5-1030NG7 CPU	1.10 GHz	8	10,932	0,775	1,04
6	Elias	8,9GB	Intel(R) Core(TM) i7-7500U()	2.70GHz	4	10,36	0,9	0,72
7	Sara	4,29	Intel(R) Core(TM) i3-7100U	2,4	4	15,61	1,18	1,08
8	Christian R	17,2 GB	Intel(R) Core(TM) i5-3210M	2.50GHz	4	8,691	0,81	0,75
9	Christian Haake	8589934592	Intel(R) Core(TM) i5-8300H	2.3	8	18.15	01.37	01.19
10	muzza	16 GB	AMD Ryzen 9 5900hx	3.3 GHz	8	6,12	0,5	0,66
11	Mohamad	4606352425	GenuineIntel" "Intel(R) Pentium(R) Silver N5030 CPU	1.10GHz	4	15,16	1,27	0,86
12	RV	8,59	i5-8265U	1.6	8	14.2	1,3	1,29
13	Calvin	33,7 GB	Intel(R) Core(TM) i7-6820HQ CPU	2.70GHz	8	10,11	0,74	0,83
14	Nico	8589934592	Intel(R) Core(TM) i5-4200H CPU	2.80GHz	4	8,24	0,639	0,659
15	Claes	16	AMD Ryzen 5 3500U Vega Mobile Gfx 2.10 GHz	2.1GHz	4	7,62	0,65	0,84
16	Rasmus	8	Intel(R) Core(TM) i5-7360U CPU	2.3 GHz	4	0,76		
17	Nadia	8589934592	11th Gen Intel(R) Core(TM) i5-1135G7	2.40GHz	8	7,91	0,64	0,55
18	Malthe	16 GB	Intel(R) Core(TM) i7-9750H CPU	2.60GHz	12	9,637	0,9639	0,6659
19	Daniel	8589934592	Intel(R) Core(TM) i7-5650U CPU	2,2GHz	4			
20	Benjamin	8.59 GB	Intel(R) Core(TM) i5-7300HQ CPU	2.50GHz	4	0,68	10,39	0,84
21	Elon Musk	100	Intel Tesla	20GHz	666			
22	Anton	8 GB	Apple M1	3,2GHz	8	7,159	0,598	0,623

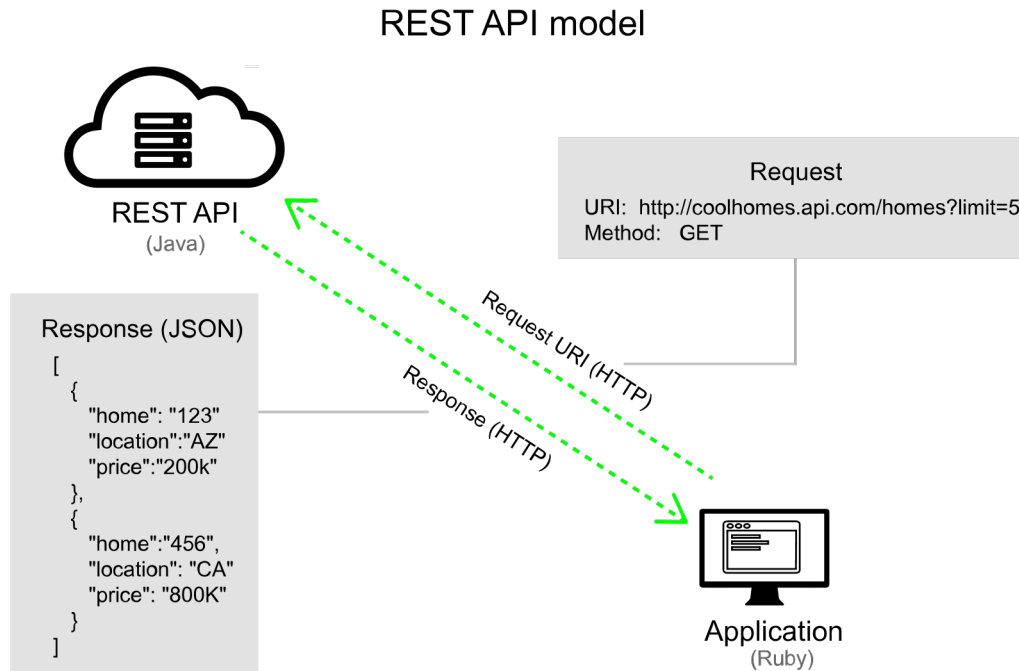
Final goal ..

	ram	cpuhastighed	cores	crossprodl	lml	sortl	user
1	8589934592	1.6	4	11.552	0.9430	0.7750	cphwiho
2	8589934592	3.2	8	7.800	0.6030	0.6200	Andreas
4	8589934592	2.0	4	13.950	1.2000	0.8500	Sara Hassouni
5	9556302234	1.1	8	10.932	0.7750	1.0400	Louise
6	9556302234	2.7	4	10.360	0.9000	0.7200	Elias
7	4606352425	2.4	4	15.610	1.1800	1.0800	Sara
8	18468359373	2.5	4	8.691	0.8100	0.7500	Christian R
9	8589934592	2.3	8	18.150	1.3700	1.1900	Christian Haake
10	17179869184	3.3	8	6.120	0.5000	0.6600	muzza
11	4606352425	1.1	4	15.160	1.2700	0.8600	Mohamad
12	9223442268	1.6	8	14.200	1.3000	1.2900	RV
13	36185099469	2.7	8	10.110	0.7400	0.8300	Calvin
14	8589934592	2.8	4	8.240	0.6390	0.6590	Nico
15	17179869184	2.1	4	7.620	0.6500	0.8400	Claes
17	8589934592	2.4	8	7.910	0.6400	0.5500	Nadia
18	17179869184	2.6	12	9.637	0.9639	0.6659	Malthe
20	9223442268	2.5	4	0.680	10.3900	0.8400	Benjamin
22	8589934592	3.2	8	7.159	0.5980	0.6230	Anton



Pause

SMK – REST API Request



- Http – hvad er det?
 - Chrome dev-tools
- Shell – hvad er det?
 - Intall Git Bash (windows)
 - Curl – hvad er det?

```
http  shell  javascript

curl --request GET \
  --url https://api.cityflow.live/devices \
  --header 'authorization: Bearer {BEARER_TOKEN}'
```


Data-retrieval CASE: SMK API

Besøg SMK
Åbningstider, entré, handi-
canforhold m.m.

	birth_date_start	death_date_start	forename	nationality	surname	ngender
1	1902-03-01T00:00:00Z	1971-01-01T00:00:00Z	NA	NULL	NA	UNKNOWN
2	1886-10-30T00:00:00Z	1959-09-20T00:00:00Z	William	Dansk	Scharff	MALE
3	1595-01-01T00:00:00Z	1647-05-06T00:00:00Z	Simon de	c("Hollandsk", "Dansk")	Pas	MALE
4	1870-03-09T00:00:00Z	1938-03-08T00:00:00Z	Karl	Dansk	Schou	MALE
5	1851-05-21T00:00:00Z	1924-05-03T00:00:00Z	Julius	Dansk	Schultz	MALE
6	1895-06-19T00:00:00Z	1970-01-02T00:00:00Z	Axel	Dansk	Skjelborg	MALE
7	1921-01-10T00:00:00Z	NULL	NA	NULL	NA	UNKNOWN
8	1817-04-04T00:00:00Z	1875-04-13T00:00:00Z	P.C.	Dansk	Skougaard	MALE
9	1813-08-08T00:00:00Z	1875-01-26T00:00:00Z	Andreas Martin	Dansk		
10	1864-08-17T00:00:00Z	1937-10-20T00:00:00Z	Harald	Dansk		

	Group.1	x
1	FEMALE	7
2	MALE	79
3	UNKNOWN	14

```
{
  "offset": 0,
  "rows": 100,
  "found": 9980,
  "items": [
    {
      "birth_date_start": [
        "1902-03-01T00:00:00Z"
      ],
      "death_date_start": [
        "1971-01-01T00:00:00Z"
      ],
      "gender": [
        "UNKNOWN",
        "onbekend",
        "inconnu",
        "unbekannt",
        "sconosciuto",
        "\u03ac\u03b3\u03bd\u03c9\u03c3",
        "\u00e5lder",
        "\u05d1\u05dc\u05ea\u05d9 \u05c",
        "ukendt"
      ]
    },
    {
      "birth_date_start": [
        "1886-10-30T00:00:00Z"
      ],
      "death_date_start": [
        "1959-09-20T00:00:00Z"
      ],
      "forename": "William",

```

Data-retrieval CASE: SMK API

Data-retrieval CASE: SMK API

I er blevet bedt om at lave en kunstner-quiz. Til det formål skal I bruge et mål på, hvor "nemt" det er at gætte en kunstner. Ét bud er, at jo flere værker desto mere "kendt" er kunstneren. Hent et passende antal personer til jeres prototype og tilføj et mål for hvor nem en kunstner det er at gætte. Målet kan f.eks være tre intervaller som I analyserer jer frem til ud fra data-analyse.



	birth_date_start	forename	surname	works	count
1	1902-03-01T00:00:00Z	NA	NA	c("KKS14429", "KKS14430")	2
7	1921-01-10T00:00:00Z	NA	NA	c("KKS21749", "KKS1993-41", "KKS1963-187")	3
9	1813-08-08T00:00:00Z	Andreas Martin	Petersen	c("KKS12451", "KKS11628", "KKS12132", "KKS11411",...	10
6	1895-06-19T00:00:00Z	Axel	Skjelborg	c("KKS17580", "KKS1971-4", "KKS18274", "KKS18275...	28
10	1864-08-17T00:00:00Z	Harald	Slott-Møller	c("DEP520", "DEP297", "KMS2073", "KMS8834", "KKSg...	30
4	1870-03-09T00:00:00Z	Karl	Schou	c("KMS6817", "KKS12786", "KKS12787", "KKS12783", ...	44
5	1851-05-21T00:00:00Z	Julius	Schultz	c("KKS1975-209", "KKS1975-206", "KKS1975-208 ve...	67
3	1595-01-01T00:00:00Z	Simon de	Pas	c("KKSgb10567", "KKS1441", "KKS4640", "KKSgb1056...	69
2	1886-10-30T00:00:00Z	William	Scharff	c("KKS1971-95", "KKS14833", "KKS1970-137", "KKS1...	100
8	1817-04-04T00:00:00Z	P.C.	Skovgaard	c("KMS4334", "KKS13019", "KKS14297", "KMS3166", "...	579

Pause

Data-retrieval CASE: Eurostat "API"



eurostat

1. Find funktionen til at hente alle tabel-beskrivelser ned i en data-frame
2. Hent `jvs_q_nace2` ned og læg mærke til hvad der står med rødt
 1. lokalisér urlen og destinationen på din pc/mac
 2. lokalisér den cachede fil og beskriv fil-formatet
 3. Lav en dataframe og gem som dette filformat

Data-retrieval CASE: Eurostat "API"



eurostat

- Get table of content
- search for "house"
 - create logical vector with **grepl**
 - filter rows with vector
- filter table by date from today (max 3 days)
 - cast "latest update" to Date
 - create now as date
 - subset by condition: `now-df$date < 3`

Data-retrieval CASE: Eurostat "API"



eurostat

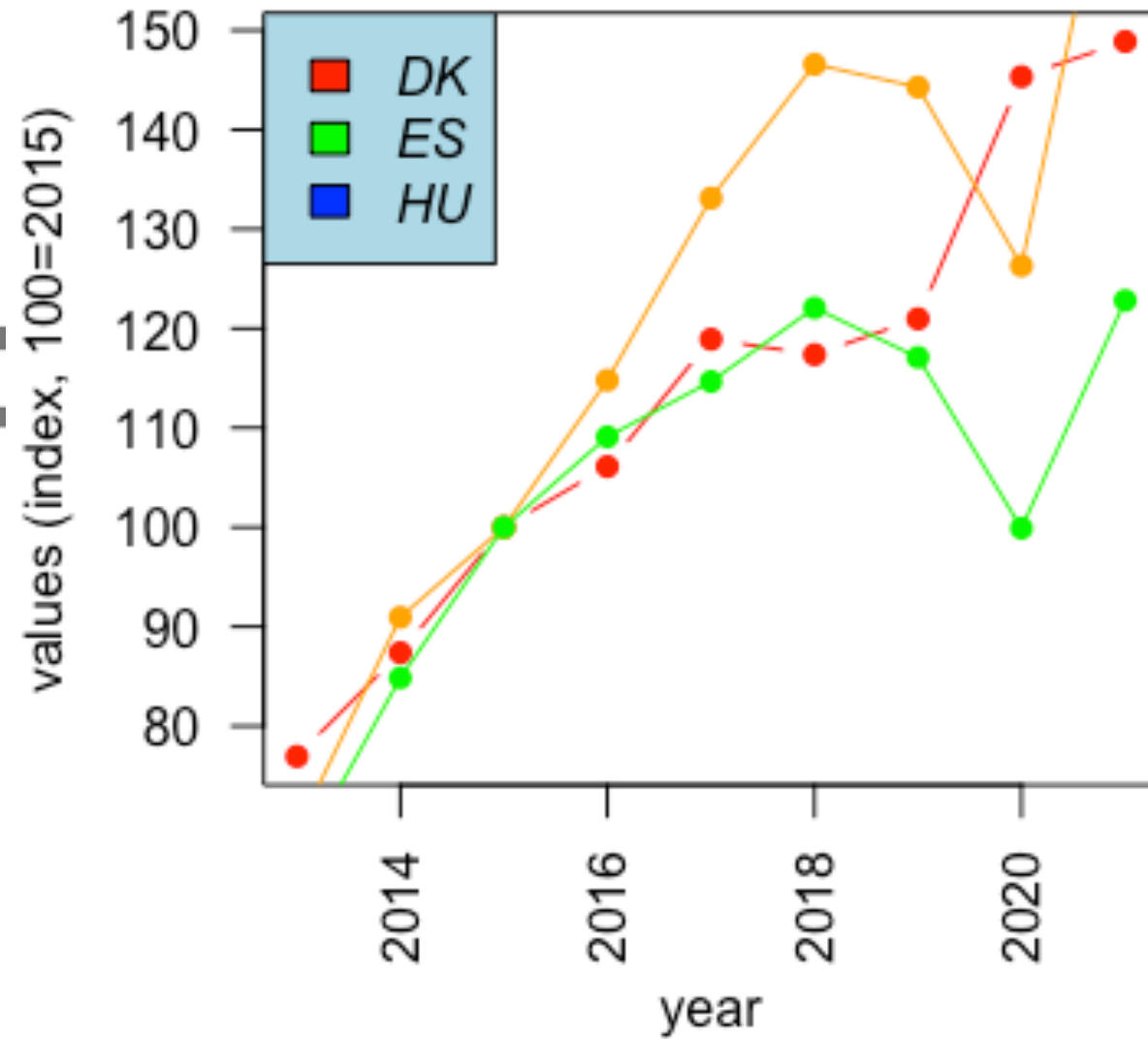
```
> unique(dfhpiq$purchase)
[1] "DW_EXST" "DW_NEW" "TOTAL"
> unique(dfhpiq$unit)
[1] "I10_Q" "I15_Q" "RCH_A" "RCH_Q"
```

Data-retrieval



eurost

Huspriser



Data-retrieval CASE: Eurostat jvs_q_nace2



eurostat

	s_adj	nace_r2	sizeclas	indic_em	geo	time	values
6548	SA	A	TOTAL	JOBVAC	HU	2022-04-01	NA
6630	SA	A-S	TOTAL	JOBVAC	HU	2022-04-01	NA
6736	SA	B	TOTAL	JOBVAC	HU	2022-04-01	NA
6919	SA	B-E	TOTAL	JOBVAC	DE	2022-04-01	236003
6923	SA	B-E	TOTAL	JOBVAC	ES	2022-04-01	8780
6926	SA	B-E	TOTAL	JOBVAC	HU	2022-04-01	NA
7121	SA	B-F	TOTAL	JOBVAC	DE	2022-04-01	443714
7126	SA	B-F	TOTAL	JOBVAC	ES	2022-04-01	14104
7130	SA	B-F	TOTAL	JOBVAC	HU	2022-04-01	NA
7325	SA	B-N	TOTAL	JOBVAC	DE	2022-04-01	1530253
7330	SA	B-N	TOTAL	JOBVAC	ES	2022-04-01	70094
7334	SA	B-N	TOTAL	JOBVAC	HU	2022-04-01	NA
7526	SA	B-S	TOTAL	JOBVAC	DE	2022-04-01	2010562
7530	SA	B-S	TOTAL	JOBVAC	ES	2022-04-01	134197

Pause