The Japanese Classification Table (TLS222_APPLN_JP_CLASS)

Welcome to the The Japanese Classification Table in PATSTAT, namely table TLS222_APPLN_JP_CLASS. Here we can find stored the FI and F-terms linked to JP application only. The Japanese Classification schemes FI and FTERM, are used by the Japanese Patent Office for carrying out patent application searches. The FI scheme is built on top of the International Patent Classification system (IPC) and is constantly being revised and updated. The FTERM scheme contains technical terms attributed from multiple viewpoints to facilitate computerised retrieval of patent documents.

FI (File Index) has been developed to expand IPC in some technical fields. FI consists of an IPC symbol and an IPC-subdivision symbol and/or file discrimination symbol added to the IPC symbol.

F-TERMS (File Forming Terms) re-classify or further segment each specific technical field of IPC from a variety of viewpoints.

In [1]:
```
from epo.tipdata.patstat import PatstatClient

# Initialize the PATSTAT client
patstat = PatstatClient(env='PROD')

# Access ORM
db = patstat.orm()

# Importing the as models
from epo.tipdata.patstat.database.models import TLS222_APPLN_JP_C
LASS
```

APPLN_ID

In [3]:
```
# Import table TLS201
from epo.tipdata.patstat.database.models import TLS201_APPLN

show_join = db.query(
    TLS201_APPLN.appln_id,
    TLS201_APPLN.appln_auth,
    TLS222_APPLN_JP_CLASS.jp_class_scheme,
    TLS222_APPLN_JP_CLASS.jp_class_symbol
).join(
    TLS201_APPLN, TLS222_APPLN_JP_CLASS.appln_id == TLS201_APPLN.
appln_id
).limit(1000)

show_join_df = patstat.df(show_join)
show_join_df
```

Out[3]:

	appln_id	appln_auth	jp_class_scheme	jp_class_symbol
0	38598911	JP	FI	B32B9 /00 A
1	35638109	JP	FI	B01J47 /00 161
2	35960521	JP	FI	H01L31 /04 266
3	24989165	JP	FI	H04W88 /06
4	26810745	JP	FI	F02M51 /08 A
...	...	...	...	...
995	32941722	JP	FI	G01D5 /245 Y
996	38584100	JP	FI	G06F21 /20 144C
997	28804412	JP	FI	G06F11 /34 195
998	26961048	JP	FI	C02F1 /62 D
999	469959856	JP	FI	B29C64 /321

1000 rows × 4 columns

JP_CLASS_SCHEME

This attribute indicates which of the two schemes are applied to the application: FI or FTERM. These classifications are being stored in DOCDB as supplied by the National Office without inspection of the contents. The EPO does not hold any responsibility for content, format or validity.

In [3]:
```
from sqlalchemy import func

jp_schema = db.query(
    TLS222_APPLN_JP_CLASS.jp_class_scheme,
    func.count(TLS222_APPLN_JP_CLASS.appln_id).label('Number of a
pplications')
).group_by(
    TLS222_APPLN_JP_CLASS.jp_class_scheme
).order_by(
    func.count(TLS222_APPLN_JP_CLASS.appln_id).desc()
)

jp_schema_df = patstat.df(jp_schema)
jp_schema_df
```

Out[3]:

	jp_class_scheme	Number of applications
0	FTERM	301706810
1	FI	75193442

JP_CLASS_SYMBOL

The two schemes FI and FTERM consist of symbols, which can be up to 50 characters long. Again, as for `jp_class_scheme`, these classifications are being stored in DOCDB as supplied by the National Office without inspection of the contents. The EPO does not hold any responsibility for content, format or validity.

In [4]:
```
symb_appln = db.query(
    TLS222_APPLN_JP_CLASS.appln_id,
    func.count(TLS222_APPLN_JP_CLASS.jp_class_symbol).label('Number of symbols')
).group_by(
    TLS222_APPLN_JP_CLASS.appln_id
).having(
    func.count(TLS222_APPLN_JP_CLASS.jp_class_symbol) > 1  # Consider only applications with more than 1 class symbol
).order_by(
    func.count(TLS222_APPLN_JP_CLASS.jp_class_symbol).desc()
).limit(1000)

symb_appln_df = patstat.df(symb_appln)
symb_appln_df
```

Out[4]:

	appln_id	Number of symbols
0	471404782	451
1	474957640	448
2	449253653	441
3	37050509	432
4	31729069	431
...	...	...
995	274008516	253
996	470703516	253
997	38156734	253
998	38007221	253
999	33536573	253

1000 rows × 2 columns

In [6]:
```
from epo.tipdata.patstat.database.models import TLS202_APPLN_TITL
E

symb_appln = db.query(
    TLS222_APPLN_JP_CLASS.appln_id,
    TLS201_APPLN.appln_nr,
    TLS201_APPLN.appln_auth,
    TLS222_APPLN_JP_CLASS.jp_class_symbol,
    TLS222_APPLN_JP_CLASS.jp_class_scheme,
    TLS202_APPLN_TITLE.appln_title
).join(
    TLS201_APPLN, TLS222_APPLN_JP_CLASS.appln_id == TLS201_APPLN.
appln_id
).join(
    TLS202_APPLN_TITLE, TLS201_APPLN.appln_id == TLS202_APPLN_TIT
LE.appln_id
).filter(
    TLS222_APPLN_JP_CLASS.appln_id == 471404782
).order_by(
    TLS222_APPLN_JP_CLASS.jp_class_scheme
)

symb_appln_df = patstat.df(symb_appln)
symb_appln_df
```

Out[6]:

	appln_id	appln_nr	appln_auth	jp_class_symbol	jp_class_scheme	appln
0	471404782	2016059925	JP	H01L21 /28 301B	FI	SEMICONDUC DEVICE MANUFACTUI METHC
1	471404782	2016059925	JP	H01L27 /10 621Z	FI	SEMICONDUC DEVICE MANUFACTUI METHC
2	471404782	2016059925	JP	H01L21 /365	FI	SEMICONDUC DEVICE MANUFACTUI METHC
3	471404782	2016059925	JP	H01L29 /78 627A	FI	SEMICONDUC DEVICE MANUFACTUI METHC
4	471404782	2016059925	JP	H10K59 /90	FI	SEMICONDUC DEVICE MANUFACTUI METHC
...	...	...	...	...	...	
446	471404782	2016059925	JP	4M118/CA05	FTERM	SEMICONDUC DEVICE MANUFACTUI METHC
447	471404782	2016059925	JP	5F103/HH05	FTERM	SEMICONDUC DEVICE MANUFACTUI METHC
448	471404782	2016059925	JP	5F110/CC02	FTERM	SEMICONDUC DEVICE MANUFACTUI METHC
449	471404782	2016059925	JP	4M104/GG14	FTERM	SEMICONDUC DEVICE MANUFACTUI METHC
450	471404782	2016059925	JP	5F103/PP03	FTERM	SEMICONDUC DEVICE MANUFACTUI METHC

451 rows × 6 columns

In [6]:
```
appln_symb = db.query(
    TLS222_APPLN_JP_CLASS.jp_class_symbol,
    func.count(TLS222_APPLN_JP_CLASS.appln_id).label('Number of s
ymbols')
).group_by(
    TLS222_APPLN_JP_CLASS.jp_class_symbol
).having(
    func.count(TLS222_APPLN_JP_CLASS.appln_id) > 1  # Consider on
ly applications with more than 1 class symbol
).order_by(
    func.count(TLS222_APPLN_JP_CLASS.appln_id).desc()
)

appln_symb_df = patstat.df(appln_symb)
appln_symb_df
```

Out[6]:

	jp_class_symbol	Number of symbols
0	G06Q50 /00	118401
1	4F100/BA03	113751
2	5K067/EE02	107837
3	4F100/BA02	105043
4	4F100/BA07	104925
...	...	...
938948	C08G81 /02 NLV	2
938949	H01Q 1/36 Z	2
938950	C08F299/02 CMRS	2
938951	3K085/CA02	2
938952	G04C13 /02 L	2

938953 rows × 2 columns