

# HW 4

Wednesday, October 14, 2020 4:10 PM

- Find all musicians who played with their band in year 1970. Output the names of the musicians.

$\pi_{m.name} (\sigma_{a.bandid = m.bandid} \wedge a.year = 1970 (M))$

- Find all musicians who played with their band in year 1970. Output the names of the musicians and the name of the band they played in.

$\pi_{m.name, b.name} (\sigma_{a.year = 1970 \wedge a.bandid = m.bandid})$

- Find all musicians who played in the band 'King Crimson' in the year 1974. Output the names of the musicians.

$\pi_M (\sigma_{M.bandid = KingCrimson \wedge a.year = 1970})$

- Find all musicians who played in their band in the band's year of inception. Output the names of the musicians and the names of the bands.

$\pi_{m.name, b.name} (\sigma_{b.formed.in = a.year})$

- Find all musicians who played in the band 'Pink Floyd' in the year 1971. Output the names of the musicians.

$\pi_{m.name} (B_{b.name = pink-floyd} \bowtie A_{year = 1971})$

- Find the band in which 'Michael Karoli' played. Report the name of the band.

$\pi_{b.name} (M_{m.name = Michael Karoli} \times B)$

- Find all musicians who participated in recording of the album 'Meddle'. Output the names of the musicians.

$\pi_{m.names} (\sigma_{a.name = Meddle \rightarrow m.names})$

- Find all bands that recorded two albums in the same year. For each band, output its name, titles of both albums and the year of their release. Expected result:

$\pi_{b.name, a1.name, a2.name, year} (\sigma_{a1.year = a2.year \wedge b.name = b2.name} (B))$

- Find all bands in which 'Irmin Schmidt' DID NOT play. Output the names of the bands

## BANDS:

Id	Name	Formed_in	Country
1	Pink Floyd	1965	UK
2	King Crimson	1969	UK
3	Can	1968	Germany
4	Doors	1967	USA
5	Velvet Underground	1967	USA
6	Gong	1969	France
7	Yes	1968	UK

## ALBUMS:

Ald	Title	BandId	Year
1	Meddle	1	1970
2	Animals	1	1977
3	Red	2	1974
4	Landed	3	1975
5	Soundtracks	3	1970
6	Beat	2	1982
7	The Doors	4	1967
8	Strange Days	4	1967
9	Loaded	5	1970
10	You	6	1974
11	Shamal	6	1976
12	Fragile	7	1971
13	Close to the Edge	7	1972

## MUSICIANS:

MId	Name	BandId	From	To
1	Roger Waters	1	1966	1983
2	Syd Barrett	1	1966	1968
3	Robert Fripp	2	1969	2002
4	Adrian Belew	2	1981	2002
5	Irmin Schmidt	3	1968	1978
6	Michael Karoli	3	1968	1978
7	Jim Morrison	4	1967	1971
8	Lou Reed	5	1967	1973
9	Daavid Allen	6	1969	1974
10	Pierre Moerlen	6	1975	1978
11	Jon Anderson	7	1968	1981
12	Bill Bruford	7	1968	1972
13	Bill Bruford	2	1972	2010

$\pi_{b.name} (mid \neq 5(b))$

10. Find all 'Pink Floyd' band members who did NOT participate in the recording of the album 'Meddle'. (note: a musician did not participate in a recording of an album if he did not play in the band that year).

$\pi_{b.name} (Bandid \neq 1(b))$