

13 Dec' 24

HW: Finish last HL breaking down Heset
Ali song — type in an excel as
(don't write) in corrected HW

HL: Textbook translation — Ch. 1 — English
phonetics for Telugu words — Correct
using Telugu textbook — type both
Telugu & phonetics — Add missing
words also

→ /Me:lakarOa ra:ga:lu /

Ragas tell us which notes/svara variations to use
(while scale tells us where to start 'sa')

If we start with /sa/ at C

sa — C

ri, ga — 6 variations

ri1, ga1; ri1, ga2; ri1, ga3; ri2, ga2; ri2, ga3;
ri3, ga3;

ma — 2 variations — ma1; ma2

pa — 1 variation — G

da, ni — 6 variations

da1, ni1; da1, ni2; da1, ni3; da2, ni2;
da2, ni3; da3, ni3

To pick a raaga for a song, we first pick which scale it is - where 'sa' should be - say, C3

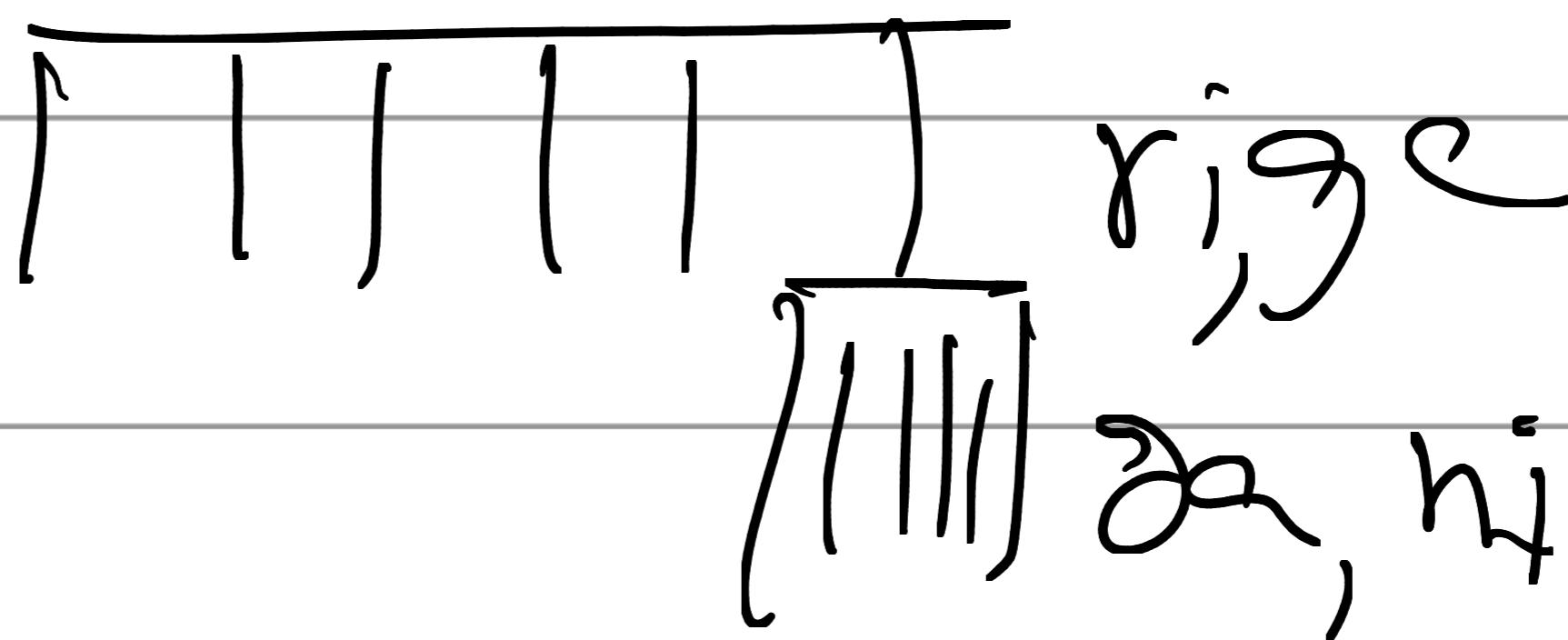
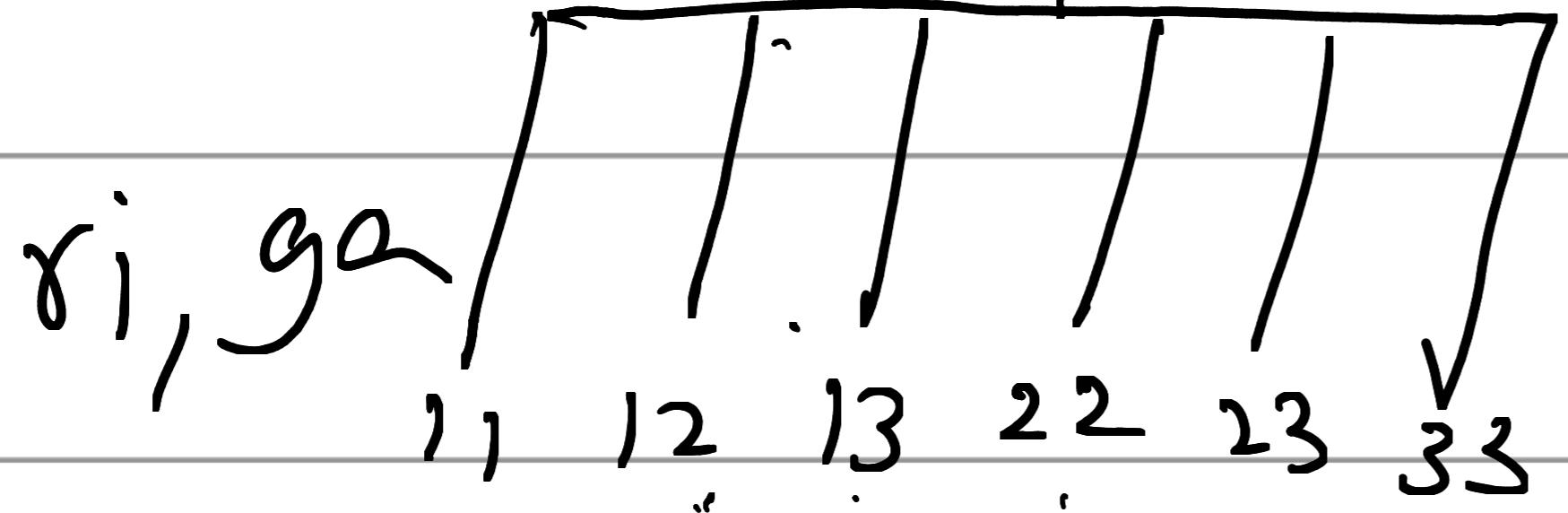


sa

pa

ma

me2



ma ri, ga da, ni

↓ ↓ ↓

$2 \times 6 \times 6 = 72$

Each ri, ga, ma combination is called 'chakra'
in melakartha ragas.

With 2 ma's & 6 ri,ga's
— we have $2 \times 6 = 12$ chakras.

Each chakra can have 6 different
ja, ni's

So, in total we can have 12×6
 $= 72$ rigama ja ni's
Sa & pa are fixed based
on scale selected.

So we have 72 different ragas based
on which rigama ja ni's are selected.

→ How to find the notes of a ^{melakartha} ~~raaga~~ number (between 1 and 72)

→ Eg: For raaga number 57

→ we divide 57 with 6

$$6 \overline{)57} \\ \underline{54} \\ 3$$

chakra number = quotient + 1

$$= 9 + 1 = 10$$

nida number = remainder

$$= 3$$

$$= \boxed{\text{ni1, da3}}$$

→ $57 > 36$, so mā2

da1 ni3

→ chakra number = 10 > 6

$$10 - 6 = 4 \rightarrow \text{ri2, ga2}$$

→ If raaga number is 'x' ($1 \leq x \leq 72$)

→ If $x > 36 \Rightarrow m2$

else m1

→ $q = x // 6 ; r = x \% 6$

r tells you 'Ja ni' number

$r = 1, \text{ ja1, ni1}$

$2, \text{ ja1, ni2}$

$3, \text{ ja1, ni3}$

$4, \text{ ja2, ni2}$

$5, \text{ ja2, ni3}$

$0, \text{ ja3, ni3}$

→ If $r=0$, chakra = q

else, chakra = $q+1$

→ If $\text{chakra} \leq 6$, 'riganumber' = chakra
else 'riganumber' = chakra - 6

rigaNumber (\Rightarrow ri1, ga1)

1 \Rightarrow ri1, ga2

2 \Rightarrow ri1, ga3

3 \Rightarrow ri2, ga2

4 \Rightarrow ri2, ga3

5 \Rightarrow ri3, ga3

→ How to Convert notes to raaga number

raaga Number = $(maNumber - 1) \times 36 + (rigaNumber - 1) \times 6$
+ danNumber

Eg: ri2 ga3 ma2 da2 N13
5 2 5 $(2-1) \times 36 + (5-1) \times 6 + 5 = 65$

- HW: (1) Write two python functions
to convert from notes to range
number or vice versa (opposite)
(2) Check both of these with
5 different function calls each.

(See Python code for more details
on these functions)