

Definitions: **Pitch** = (letter name, +/-, octave number)
Note = (Pitch, duration)

ex. an 1/8 note A below the staff (A,, ,3, 12)

the convention for duration will be: whole note = 96

1/2 note = 48

1/4 note = 24 dotted 1/4 note = 24 + 12 = 36

1/8 note = 12 dotted 1/8 note = 12 + 6 = 18

1/16 note = 6 etc

Input: A sequence of pitches and a rhythm pattern

example of a rhythm pattern: (18,6,18,6,6,6)
dotted eighth, 1/16, dotted eighth, 1/16, 1/16, 1/16

The **output** is a line of music with the given notes in the given rhythm pattern.

PROGRAM (excuse the expression)

1. Input the notes and create **P** = a vector of the pitches
2. input the rhythm pattern **R** = rhythm pattern vector
3. **LP** = length of P in the example it is 48
4. **LR** = length of R in the example its 6
5. the number of measures in the output is **NM** = LP/LR in the example 48/6 = 8
- 6 to determine the time signature of the output
 1. let SRP = sum of integers in the rhythm pattern
 2. If SRP/24 is an integer, the the time signature is SPR over 4 if not and SPR/12 is an integer then time signature is SPR over 8, if not and SPR/6 is an integer then the signature is SPR over 16. In the example; SPR = 60 and the time signature is 5 over 8
7. We are ready to construct the output:

measure 1 = (P 1, R 1) (P 2, R 2) ... (P LR, R LR) sorry I can't do subscripts

measure 2 = (P LR + 1, R1) (P LR + 2, R2) ... (P 2xLR, R LR)

...

measure n =(P (n-1)xLR + 1, R1) (P (n-1)xLR + 2, R2) ... (P n x LR, R LR)

measure NM is the last measure.