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# SYML Melody Generator

## User Manual

Welcome to SYML Melody Generator User Manual

This Manual describe the working of the Software and Some key aspect of SYML Language and compiler

Working of the Software :

Files Involved ~

- \$Prep\_data - This python file contain the code for data loading, preparation processing and transforming.
- \$train\_lstm - This python file contain the code for creating a model on which processed data can be trained
- \$lofi\_generator - This python file contain the code to back track all processes and create a melody out of it
- \$gui\_advance - This python file contain the code for graphical user interface
- \$Merger - This Python file contain the code for merging certain code and audio
- \$Air-paino- This Python file contain the code for SYML inbuilt paino



### SYML Language

This is a low level symbolic language written by us for user to initialize the seed value for the our deep learning model

There are total 45 different numerics and 3 different symbols

\$ "76" : Corresponds to Note E5  
\$ "51": Corresponds to Note D3#  
\$ "21": Corresponds to Note A0  
\$ "80": Corresponds to Note G5#  
\$ "75" : Corresponds to Note D5#  
\$ "74": Corresponds to Note D5  
\$ "71": Corresponds to Note B4  
\$ "85": Corresponds to Note C6#  
\$ "59": Corresponds to Note B3  
\$ "70": Corresponds to Note A4#  
\$ "77": Corresponds to Note F5  
\$ "62": Corresponds to Note D4  
\$ "49": Corresponds to Note C3#  
\$ "55": Corresponds to Note G3  
\$ "52": Corresponds to Note E3  
\$ "45": Corresponds to Note A2  
\$ "53": Corresponds to Note F3  
\$ "50": Corresponds to Note D3  
\$ "66": Corresponds to Note F4#  
\$ "60": Corresponds to Note C4  
\$ "68": Corresponds to Note G4#  
\$ "65": Corresponds to Note F4  
\$ "83": Corresponds to Note B5  
\$ "54": Corresponds to Note F3#



\$"61": Corresponds to Note C4#  
 \$"57": Corresponds to Note A3  
 \$"56": Corresponds to Note G3#  
 \$"78": Corresponds to Note F5#  
 \$"47": Corresponds to Note B2  
 \$"73": Corresponds to Note C5#  
 \$"74": Corresponds to Note D5  
 \$"82": Corresponds to Note A5#  
 \$"67": Corresponds to Note G4  
 \$"72": Corresponds to Note C5  
 \$"84": Corresponds to Note C6  
 \$"75": Corresponds to Note D5#  
 \$"69": Corresponds to Note A4  
 \$"79": Corresponds to Note G5  
 \$"64": Corresponds to Note E4  
 \$"86": Corresponds to Note D6  
 \$"81": Corresponds to Note A5  
 \$"58": Corresponds to Note A3#  
 \$"43": Corresponds to Note G2  
 \$"48": Corresponds to Note C3  
 \$"63": Corresponds to Note D4#

#### Special Symbols :

\$"r": Represents the rest of notes  
 \$"/": Represents the end of melody  
 \$" \_ ": Represents that note is held

#### Sample Codes :

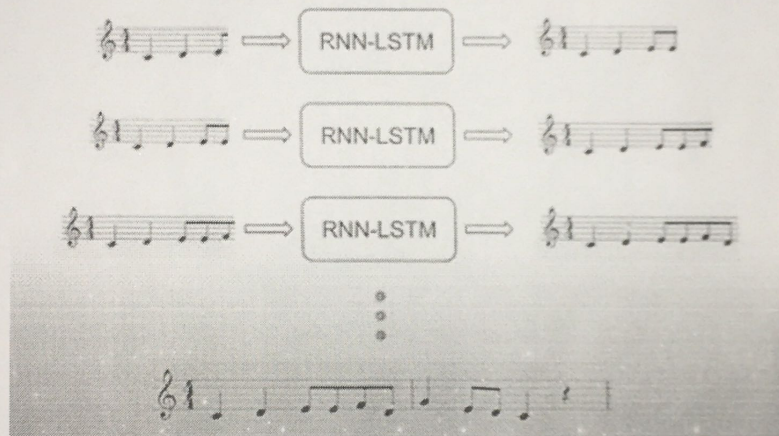
Ex- "79 \_ \_ 48 \_ \_"

Ex - " 63 \_ \_ \_ 48 \_ \_ \_ \_ 81 \_ \_ \_ "



### Basic Logic of Generator

Long Short Term Memory Networks is an advanced RNN, a sequential network, that allows information to persist. It is capable of handling the vanishing gradient problem faced by RNN. A recurrent neural network is also known as RNN is used for persistent memory.



This gives us back a midi file which contain generated melody

Then user can go to loft Workshop can convert the melody into loft tune

Workshop have to 2 different option

- SYML SPL
- LOFI -GEN

Both convert the Melody into LoFi

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