
Task 4 – Display Melodies Method for EasyABC

This task displays the music sample in such a way that it can be easily copied and pasted directly into EasyABC for listening purposes. This sets up the required infrastructure for interactive selection, which is the next task after this one. The format is the following:

```
X:1
T:Individual <individual-#>
C:Dystopian Tuesday → my AI band name :)
M:4/4
L:¼
Q:1/4=120
V:S clef=treble name=S
V:A clef=treble name=A
V:T clef=bass name=T
%%score [ ( S ) ( A ) ( T ) ]
K:C
V:S
%%MIDI program 0 → sets instrument, may be useful to set different sounds later
<melody1>
V:A
<melody2>
V:T
<melody3>
```

Demo

```
[1]> ( load "D:\\Programming Projects\\Lisp
Projects\\466Project\\acga.lisp" )
;; Loading file D:\\Programming Projects\\Lisp
Projects\\466Project\\acga.lisp ...
;; Loaded file D:\\Programming Projects\\Lisp
Projects\\466Project\\acga.lisp
T
[2]> ( demo--display-individual )
```

-----Individual 1-----

X:1

T:Individual 1

C:Dystopian Tuesday

M:4/4

L:1/4

Q:1/4=120

V:S clef=treble name=S

V:A clef=treble name=A

V:T clef=treble name=T

%%score [(S) (A) (T)]

K:C

V:S

%%MIDI program 0

C' G' B/2' C' C/2' F2' F' B' C/2' E2' G' A/2' C2' D2'

V:A

E' B' F/2' E' E/2' A2' A' F' E/2' G2' B' E/2' E2' F2'

V:T

D4, D2, G, B2, B2, G2, B, G2,

-----PERFORMING MUTATION-----

-----Individual 1-----

X:1

T:Individual 1

C:Dystopian Tuesday

M:4/4

L:1/4

Q:1/4=120

V:S clef=treble name=S

V:A clef=treble name=A

V:T clef=treble name=T

%%score [(S) (A) (T)]

K:C

V:S

%%MIDI program 0

C' G' B/2' C' C/2' F2' F' B' C/2' E2' G' A/2' C2' D'

V:A

C2' B' F/2' E' E/2' A2' A' F' E/2' G2' B' E/2' E2' F2'

V:T

D4, D2, G, B2, G, G2, B, G2,

NIL

Demo Code

```
; Demo method to test the EasyABC display
( defmethod demo--display-individual ()
  ( setf melody1-notes ( generate-melody1 ) )
  ( setf melody2-notes ( generate-melody2 melody1-notes ) )
  ( setf melody3-notes ( generate-bassline ) )

  ( setf sample
    ( make-instance 'music
      :melody1 melody1-notes
      :melody2 melody2-notes
      :melody3 melody3-notes
      :str-representation ""
      :rank 0
      :num 1
    )
  )

  ( easyabc-display sample )
  ( terpri )
  ( format t "-----PERFORMING MUTATION-----~%" )
  ( mutation sample )
  ( easyabc-display sample )
)
```

Code

```
; Method to display a music sample in such a way that it can be copied and
pasted
; directly into EasyABC notation
( defmethod easyabc-display ( ( sample music ) )
  ( format t "-----Individual ~A-----~%" (
music-num sample ) )
  ( format t "X:1~%")
  ( format t "T:Individual ~A~%" ( music-num sample ) )
```

```
( format t "C:Dystopian Tuesday~%" )
( format t "M:4/4~%" )
( format t "L:1/4~%" )
( format t "Q:1/4=120~%")
( format t "V:S clef=treble name=S~%" )
( format t "V:A clef=treble name=A~%" )
( format t "V:T clef=treble name=T~%" )
( format t "%score [ ( S ) ( A ) ( T ) ]~%")
( format t "K:C~%" )
( format t "V:S~%" )
; set instrument for midi
( format t "%MIDI program 0~%" )
( display-melody1 sample )
( format t "V:A~%" )
( display-melody2 sample )
( format t "V:T~%" )
( display-melody3 sample )
)
```