$Musical\ Dice\ Game\ extbf{-}$ $Minuets\ I$

based on

Ludus Melothedicus ou le Jeu de Dez Harmonique

compiled by I. T. Author





Musical Dice Game - Minuets I

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Ludus Melothedicus ou
le Jeu de Dez Harmonique

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Wonders of the Musical World Series 8



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	8-5-4-7-6-1-8-4-8-1-7-9-1-6-4-6	23 23

License	27
9-7-6-2-6-1-4-3-3-7-8-4-1-6-9-6	26
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9-3-3-9-3-8-5-6-9-4-2-3-8-2-3	
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9-2-2-1-9-7-2-1-2-8-9-3-5-2-4-8	
8-9-1-7-5-2-3-8-7-7-4-6-2-5-5-5	24
8-8-8-6-6-2-2-7-9-3-3-6-3-8-7-2	
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1 Introduction¹

"LUDUS MELOTHEDICUS OU LE JEU DE DEZ HARMONIQUE Contenat plusieurs Calculs Par lesquels toute personne Composera differents Menuets avec l'accompagnement de Basse en jouant avec de deux Dez meme sans scavior la Musique" "LUDUS MELOTHEDICUS OR
THE HARMONIC GAME OF DICE
Containing several Calculations
By which any person will
Compose different Minuets
with Bass accompaniment
while playing with two Dice themselves
without knowing Music."

Thus run the French title and corresponding English translation of the Musical Dice Game (MDG) that was anonymously authored and was published by Chevardiére: Paris in 1759 (Anonymous, 1759). Rightly and interestingly so, as the Rules provided in this work allow a non-professional musician to generate ("compose") nearly two quadrillions (2×10^{12}) of unique MDG minuets. More precisely, the total number of minuets that the rules of the *Ludus Melothedicus*, as we would refer to this MDG from here onward, yield is:

$$9^{16} = 1.853\,020\,188\,851.841.$$

A Musikalisches Würfelspiel (German for "musical dice game" or MDG) is a system for randomly "generating" (e.g., by using a die or two dice) musical compositions from precomposed options and was quite popular throughout Western Europe in the 18th century. The earliest known MDG is Johann Philipp Kirnberger's Der allezeit fertige Polonoisen- und Menuettencomponist (1st ed. 1757; rev. 2nd ed. 1783) (translated from German as "The Ever-Ready Minuet and Polonaise Composer"). Other well-known composers that are to known to have composed a MDG are C.P.E. Bach (Einfall, einen doppelten Contrapunct in der Octave von sechs Tacten zu machen, ohne die Regeln davon zu wissen (1758); translated from German as "A method for making six bars of double counterpoint at the octave without knowing the rules"), Abbé Maximillian Stadler (Table pour composer des minuets et des Trios à la infinie; avec deux dez à jouer (1780); translated from French as "A table for composing minuets and trios to infinity, by playing with two dice"), the latter MDG being also attributed to Franz Joseph Haydn.

Probably the most famous of MDGs is Musikalisches Würfelspiel K. 516f (1787). This MDG was first published by J.J. Hummel in 1793 in Berlin and was republished in 1796 by Nikolaus Simrock in Bonn (as K. 294d or K. Anh. C 30.01). Simrock attributed this work to Wolfgang Amadeus Mozart. It is also known under the title of Anleitung zum Componieren von Walzern so viele man will vermittelst zweier Würfel, ohne etwas von der Musik oder Composition zu verstehen (German for "Instructions for the composition of as many waltzes as one desires with two dice, without understanding anything about music or composition") and may have been based on Mozart's manuscript K. 516f, written in 1787, consisting of numerous two-bar fragments of music, that appear to be some kind of game or system for constructing music out of two-bar fragments, but contains no instructions nor hints as to the use of dice. An online article by Hideo Noguchi offers a possible explanation for this attribution.

For this book, we generate MDG minuets based on the rules given in the second edition of *Ludus Melothedicus*. Fifty (50) such MDG minuets are given toward the latter part of this book. The scores of these generated minuets were initially written using the abc environment of Chris Walshaw, then converted to Scalar Vector Graphics (SVG) images (with corresponding MIDIs) using abcm2ps and abcmidi, and then pre-processed with Inkscape to be included in IATEX to produce this book.

¹The information contained in the introduction were culled from the following online resources: *Ludus Melothedicus*, *ou Le eu de Dez Harmonique*, *2nd ed.* (1759), Wikipedia: *Musikalisches Würferspiel* (2017), https://opus-infinity.org/, and Mozart's Melody Machine (Peterson, 2001)

2 Ludus Melothedicus

2.1 Rules

The Rules provided in *Ludus Melothedicus* generate minuets consisting of 16 bars/measures that may be divided into two parts of eight bars each. Each part is played with a repeat. All told, a total of $16 \times 2 = 32$ bars of music is played for each minuet.

The notes for each bar of the minuet are determined by rolling a nine-sided top or die 16 times to get a sequence of integers whose terms are elements of the set {1, 2, 3, .4, 5, 6, 7, 8, 9}. The first eight toss outcomes will be used to create the eight bars of Part I of the minuet, latter eight toss outcomes to create the eight bars of Part II of the minuet, according to the rules given below (not exactly the same as given in the *Ludus Melothedicus* as here, the Table of Measures for Parts I and II have already been constructed before hand; see Section 2.2 for more information).

The suggested accompaniments are a violin for the G-clef and bass or cello for the F-clef.

- 1. To generate the notes for each of the eight bars of Part I of the minuet, simply look up the bar corresponding to the toss outcome (rows) and the current minuet bar number (column) in the Tables of Measures for Part I (Tables 1 and 2).
- 2. Similarly, to generate the notes for each of the eight bars of Part II of the minuet, repeat Step 1 but this time using the Tables of Measures for Part II (Tables 3 and 4).

For example, if we are in the process of creating the fifth bar (Bar 5) of Part I of the minute and the dice outcome was a 3, then we would use the notes in bar number 21 of Figure 1: [V:1] =B2G2=e2 for the G-clef and [V:2] G,2G,2G,2 for the F-clef.

2.2 How to Generate the Table of Measures

[... TO BE WRITTEN according to the rules given in Ludus Melothedicus ...]

2.3 Table of Measures

The Table of Measures for Part I of the minuets based on *Ludus Melothedicus* are given in Figures 1 and 2, that follow while that for Part II are given in Tables 3 and 4. The notes of the bars in these four tables were generated based on *Ludus Melothedicus*.

Roll Outcomes as Parts: 1.2.3.4.5.6.7.8.9

Paris: La Chevardière, 1759



Figure 1: Table of Measures - Part I (Page 1/2)



Figure 2: Table of Measures - Part I (Page 2/2)

Roll Outcomes as Parts: 1.2.3.4.5.6.7.8.9

Paris: La Chevardière, 1759



Figure 3: Table of Measures - Part II (Page 1/2)

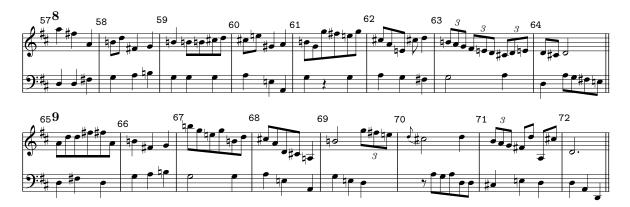


Figure 4: Table of Measures - Part II (Page 2/2)

3 Related Links

The following are very interesting sites in that they allow the online rendering of MDGs:

- Opus Infinity Collaborative work of Robbert Harms, Hein Moors, and Suus van Petegem whose goal is to unravel the mystery behind the tables used for generating MDGs. Site visitors can generate MDGs based on works of Kirnberger, Mozart, Stadler/Haydn, Bach, Gerlach, and Callegari (1st Cahier). Corresponding audio files (mid, ogg, and/or mp3) and image files (pdf or png) are also made available for listening, viewing, or downloading.
- Mozart A site maintained by John Chuang that allows the site visitor to generate MDGs based on the work of Stadler/Haydn.
- Mozart A site maintained by Marian Aldenhövel allows the visitor to generate a MDG (user-specified or randomly-generated) and the corresponding audio (midi, wav) and image files (pdf, png) based on Musikalisches Würferspiel, K. 516f.
- mozart.zip This is a Windows software (© 1995 VisionSoft) by John Chuang and Stephen Goodwin that generates MDG based on input from user and is available for *free* from Amaranth Publishing.
- "Mozart Musical Game in C K. 516f," Mozart Studies Online The site of Hideo Noguchi that offers an explanation linking Musikalisches Würferspiel, K. 516f, and K. 294d (K. Anh. C 30.01).

4 Acknowledgments

Special thanks to International Music Score Library Project for Ludus Melothedicus, ou Le Jeu de Dez Harmonique, 2nd ed. (1759), Opus Infinity for additional related information, and Amaranth Publishing for a copy of mozart.zip. My sincerest gratitude to Chris Walshaw et al. for the ABC music notation; Jean-Francois Moine for abcm2ps and the accompanying examples, templates, and pointers for the appropriate use of these resources; Guido Gonzato for the ABC Plus Project and the abcmidi resources available there, more especially for the ABC resource book Making Music with ABC 2; James R. Allwright and Seymour Shlien for abcmidi source and binaries; Artifex, Inc. for Ghostscript v.10.00.0 (includes the ps2pdf converter); Inkscape v.1.2.2 for the tool for converting SVGs to PDFs for inclusion into LATEX documents; William Schelter for Maxima v.5.47.0—used for computing the permutation number; Google Lens and Google Translate for aiding in producing the English versions of the text of Ludus Melothedicus; Colomban Wendling et. al for Geany 2.0 IDE; and User: Martin H for his reply to a TFX / LATFX Stack Exchange question on including SVGs into LATFX documents. Thanks to Ditto to Machtelt Garrels for the book Bash Guide for Beginners, Vivek Gite for the book Linux Script Shell Tutorial, and Steve Parker for the Unix/Linux Shell Cheatsheet. John Fogarty's GitHub Site: Latex CreateSpace BookCover and Peter Wilson's reply in TFX / LATFX Stack Exchange on designing a book cover, were sources of ideas, information, and materials for creating the book cover and title page, thanks to both of them; LibreOffice Calc for its use in the image creation of the book cover. Many thanks, too, to the Debian Project for the Debian 12 (Bookworm) GNU/Linux OS, TexLive for providing the T_FX distribution, and GitHub for its generosity in providing space for the project.

5 Fifty (50) Selected Minuets based on Ludus Melothedicus

This section contains an example of 50 minutes that were generated using the Rules in Section 2.1.

1-1-5-5-2-6-9-3-2-9-6-8-6-9-6-5



1 - 4 - 8 - 8 - 6 - 7 - 2 - 3 - 2 - 1 - 4 - 8 - 5 - 4 - 7

ldmt::1:26:59:60:61:46:55:16::17:10:3:28:61:38:31:56::

Perm. No.: 1316216265012703



For audio (midi): ldmt-1-4-8-8-8-6-7-2-3-2-1-4-8-5-4-7.mid

1 - 5 - 4 - 4 - 7 - 8 - 7 - 1 - 5 - 4 - 5 - 8 - 3 - 8 - 1 - 1

ldmt::1:34:27:28:53:62:55:8::33:26:35:60:21:62:7:8::



For audio (midi): ldmt-1-5-4-4-7-8-7-1-5-4-5-8-3-8-1-1.mid

1 - 9 - 2 - 9 - 5 - 5 - 2 - 9 - 2 - 8 - 5 - 6 - 9 - 2 - 6 - 2

 ${\tt ldmt::1:66:11:68:37:38:15:72::9:58:35:44:69:14:47:16::}$

Perm. No.: 325250042979043



For audio (midi): ldmt-1-9-2-9-5-5-2-9-2-8-5-6-9-2-6-2.mid

1 - 9 - 3 - 1 - 4 - 3 - 2 - 2 - 8 - 6 - 1 - 6 - 3 - 1 - 3 - 4

ldmt::1:66:19:4:29:22:15:16::57:42:3:44:21:6:23:32::

Perm. No.: 664150989446794



For audio (midi): ldmt-1-9-3-1-4-3-2-2-8-6-1-6-3-1-3-4.mid

1 - 9 - 8 - 9 - 4 - 9 - 8 - 9 - 7 - 3 - 1 - 6 - 9 - 1 - 9 - 5

ldmt::1:66:59:68:29:70:63:72::49:18:3:44:69:6:71:40::

Perm. No.: 1008996285211867



For audio (midi): ldmt-1-9-8-9-4-9-8-9-7-3-1-6-9-1-9-5.mid

2 - 1 - 8 - 5 - 4 - 4 - 5 - 9 - 5 - 3 - 8 - 8 - 5 - 8 - 2 - 2

ldmt::9:2:59:36:29:30:39:72::33:18:59:60:37:62:15:16::

Perm. No.: 247935766019600



For audio (midi): ldmt-2-1-8-5-4-4-5-9-5-3-8-8-5-8-2-2.mid

2-2-1-9-8-4-6-7-9-4-8-8-5-1-6-2

ldmt::9:10:3:68:61:30:47:56::65:26:59:60:37:6:47:16::

Perm. No.: 321650425642619



For audio (midi): ldmt-2-2-1-9-8-4-6-7-9-4-8-8-5-1-6-2.mid

2 - 4 - 1 - 8 - 2 - 2 - 7 - 9 - 2 - 2 - 4 - 5 - 5 - 7 - 7 - 5

ldmt::9:26:3:60:13:14:55:72::9:10:27:36:37:54:55:40::

Perm. No.: 977342652806249



For audio (midi): ldmt-2-4-1-8-2-2-7-9-2-2-4-5-5-7-7-5.mid

3-1-5-1-9-1-4-8-3-5-2-9-6-4-1-5

ldmt::17:2:35:4:69:6:31:64::17:34:11:68:45:30:7:40::

Perm. No.: 832858479710580



For audio (midi): ldmt-3-1-5-1-9-1-4-8-3-5-2-9-6-4-1-5.mid

3-2-1-4-4-1-6-4-1-7-4-2-4-7-2-2

ldmt::17:10:3:28:29:6:47:32::1:50:27:12:29:54:15:16::

Perm. No.: 244910591092767



For audio (midi): ldmt-3-2-1-4-4-1-6-4-1-7-4-2-4-7-2-2.mid

3 - 2 - 8 - 5 - 9 - 1 - 8 - 7 - 9 - 2 - 2 - 5 - 6 - 5 - 1 - 7

ldmt::17:10:59:36:69:6:63:56::65:10:11:36:45:38:7:56::

Perm. No.: 1247056178854593



For audio (midi): ldmt-3-2-8-5-9-1-8-7-9-2-2-5-6-5-1-7.mid

3-4-1-7-9-3-7-6-8-7-7-3-2-7-5-2

ldmt::17:26:3:52:69:22:55:48::57:50:51:20:13:54:39:16::

Perm. No.: 313018262375034



For audio (midi): ldmt-3-4-1-7-9-3-7-6-8-7-7-3-2-7-5-2.mid

3-4-3-1-4-2-7-8-5-1-4-3-4-1-2-6

ldmt::17:26:19:4:29:14:55:64::33:2:27:20:29:6:15:48::

Perm. No.: 1053253172945307



For audio (midi): ldmt-3-4-3-1-4-2-7-8-5-1-4-3-4-1-2-6.mid

3-6-9-6-1-6-5-2-7-4-2-8-6-4-6-8

ldmt::17:42:67:44:5:46:39:16::49:26:11:60:45:30:47:64::

Perm. No.: 1564884214056516



For audio (midi): ldmt-3-6-9-6-1-6-5-2-7-4-2-8-6-4-6-8.mid

4-4-2-2-9-7-7-6-5-3-9-9-6-1-7-9

ldmt::25:26:11:12:69:54:55:48::33:18:67:68:45:6:55:72::

Perm. No.: 1786081876460419



For audio (midi): ldmt-4-4-2-2-9-7-7-6-5-3-9-9-6-1-7-9.mid

4-4-3-9-9-4-3-1-4-4-5-7-6-1-3-6

ldmt::25:26:19:68:69:30:23:8::25:26:35:52:45:6:23:48::

Perm. No.: 1076824919261002



For audio (midi): ldmt-4-4-3-9-9-4-3-1-4-4-5-7-6-1-3-6.mid

4-4-4-9-3-7-8-8-7-4-4-1-4-3-9-4

ldmt::25:26:27:68:21:54:63:64::49:26:27:4:29:22:71:32::

Perm. No.: 806630674659124



For audio (midi): ldmt-4-4-9-3-7-8-8-7-4-4-1-4-3-9-4.mid

4 - 4 - 7 - 8 - 7 - 5 - 3 - 4 - 2 - 6 - 2 - 3 - 3 - 4 - 2 - 5

ldmt::25:26:51:60:53:38:23:32::9:42:11:20:21:30:15:40::

Perm. No.: 854700022137262



For audio (midi): ldmt-4-4-7-8-7-5-3-4-2-6-2-3-3-4-2-5.mid

4-5-5-1-9-5-9-4-7-7-8-1-9-5-7-1

ldmt::25:34:35:4:69:38:71:32::49:50:59:4:69:38:55:8::

Perm. No.: 149714663518480



For audio (midi): ldmt-4-5-5-1-9-5-9-4-7-7-8-1-9-5-7-1.mid

4 - 5 - 6 - 4 - 7 - 4 - 3 - 1 - 8 - 8 - 1 - 4 - 6 - 5 - 7 - 9

ldmt::25:34:43:28:53:30:23:8::57:58:3:28:45:38:55:72::



For audio (midi): ldmt-4-5-6-4-7-4-3-1-8-8-1-4-6-5-7-9.mid

4-6-6-1-8-4-8-6-2-9-3-4-8-8-4-4

ldmt::25:42:43:4:61:30:63:48::9:66:19:28:61:62:31:32::

Perm. No.: 706178128219222



For audio (midi): ldmt-4-6-6-1-8-4-8-6-2-9-3-4-8-8-4-4.mid

4 - 7 - 2 - 1 - 6 - 6 - 6 - 7 - 1 - 1 - 3 - 7 - 5 - 6 - 9 - 1

ldmt::25:50:11:4:45:46:47:56::1:2:19:52:37:46:71:8::

Perm. No.: 197048678536921



For audio (midi): ldmt-4-7-2-1-6-6-6-7-1-1-3-7-5-6-9-1.mid

5 - 2 - 6 - 8 - 5 - 2 - 8 - 7 - 8 - 2 - 3 - 7 - 3 - 4 - 9 - 1

ldmt::33:10:43:60:37:14:63:56::57:10:19:52:21:30:71:8::



For audio (midi): ldmt-5-2-6-8-5-2-8-7-8-2-3-7-3-4-9-1.mid

5 - 3 - 4 - 7 - 2 - 6 - 5 - 6 - 3 - 1 - 8 - 3 - 4 - 4 - 8 - 3

ldmt::33:18:27:52:13:46:39:48::17:2:59:20:29:30:63:24::

Perm. No.: 580479979518977



For audio (midi): ldmt-5-3-4-7-2-6-5-6-3-1-8-3-4-4-8-3.mid

5-4-5-4-8-2-6-2-2-9-7-6-7-2-5-5

ldmt::33:26:35:28:61:14:47:16::9:66:51:44:53:14:39:40::

Perm. No.: 919489117208432



For audio (midi): ldmt-5-4-5-4-8-2-6-2-2-9-7-6-7-2-5-5.mid

5 - 5 - 2 - 2 - 9 - 2 - 5 - 3 - 8 - 8 - 8 - 5 - 9 - 2 - 9 - 5

ldmt::33:34:11:12:69:14:39:24::57:58:59:36:69:14:71:40::

Perm. No.: 1011533126942264



For audio (midi): ldmt-5-5-2-2-9-2-5-3-8-8-5-9-2-9-5.mid

5-5-8-6-8-9-2-9-3-4-4-2-7-3-5-4

ldmt::33:34:59:44:61:70:15:72::17:26:27:12:53:22:39:32::

Perm. No.: 716002004064821



For audio (midi): ldmt-5-5-8-6-8-9-2-9-3-4-4-2-7-3-5-4.mid

6 - 1 - 4 - 8 - 6 - 6 - 9 - 5 - 4 - 3 - 5 - 3 - 1 - 3 - 2 - 6

ldmt::41:2:27:60:45:46:71:40::25:18:35:20:5:22:15:48::

Perm. No.: 1057493821539633



For audio (midi): ldmt-6-1-4-8-6-6-9-5-4-3-5-3-1-3-2-6.mid

6 - 3 - 3 - 3 - 4 - 1 - 8 - 4 - 4 - 3 - 8 - 6 - 3 - 7 - 3 - 9

ldmt::41:18:19:20:29:6:63:32::25:18:59:44:21:54:23:72::

Perm. No.: 1708880930570364



For audio (midi): ldmt-6-3-3-3-4-1-8-4-4-3-8-6-3-7-3-9.mid

6 - 4 - 1 - 6 - 6 - 4 - 5 - 3 - 8 - 9 - 5 - 9 - 8 - 3 - 4 - 2

ldmt::41:26:3:44:45:30:39:24::57:66:35:68:61:22:31:16::

Perm. No.: 281850656082324



For audio (midi): ldmt-6-4-1-6-6-4-5-3-8-9-5-9-8-3-4-2.mid

6 - 5 - 9 - 8 - 3 - 3 - 2 - 3 - 7 - 5 - 7 - 2 - 7 - 7 - 5 - 6

ldmt::41:34:67:60:21:22:15:24::49:34:51:12:53:54:39:48::

Perm. No.: 1137962722444638



For audio (midi): ldmt-6-5-9-8-3-3-2-3-7-5-7-2-7-5-6.mid

6 - 8 - 3 - 1 - 3 - 7 - 7 - 5 - 2 - 5 - 6 - 5 - 9 - 4 - 6 - 9

ldmt::41:58:19:4:21:54:55:40::9:34:43:36:69:30:47:72::

Perm. No.: 1771542626386119



For audio (midi): ldmt-6-8-3-1-3-7-7-5-2-5-6-5-9-4-6-9.mid

6 - 9 - 1 - 6 - 4 - 8 - 8 - 1 - 7 - 6 - 1 - 5 - 7 - 7 - 4 - 5

ldmt::41:66:3:44:29:62:63:8::49:42:3:36:53:54:31:40::

Perm. No.: 909268401710382



For audio (midi): ldmt-6-9-1-6-4-8-8-1-7-6-1-5-7-7-4-5.mid

6-9-9-4-3-8-5-3-7-8-3-2-8-6-9-8

ldmt::41:66:67:28:21:62:39:24::49:58:19:12:61:46:71:64::

Perm. No.: 1638979937172483



For audio (midi): ldmt-6-9-9-4-3-8-5-3-7-8-3-2-8-6-9-8.mid

$7\hbox{-} 7\hbox{-} 9\hbox{-} 1\hbox{-} 8\hbox{-} 5\hbox{-} 2\hbox{-} 9\hbox{-} 6\hbox{-} 5\hbox{-} 3\hbox{-} 1\hbox{-} 7\hbox{-} 3\hbox{-} 9\hbox{-} 1$

ldmt::49:50:67:4:61:38:15:72::41:34:19:4:53:22:71:8::

Perm. No.: 189801426077620



For audio (midi): ldmt-7-7-9-1-8-5-2-9-6-5-3-1-7-3-9-1.mid

7-8-2-1-5-6-5-7-9-5-7-6-8-6-3-7

ldmt::49:58:11:4:37:46:39:56::65:34:51:44:61:46:23:56::

Perm. No.: 1295966464580221



For audio (midi): ldmt-7-8-2-1-5-6-5-7-9-5-7-6-8-6-3-7.mid

8-1-6-7-6-4-6-5-9-1-6-6-5-9-9-3

ldmt::57:2:43:52:45:30:47:40::65:2:43:44:37:70:71:24::

Perm. No.: 616435954199180



For audio (midi): ldmt-8-1-6-7-6-4-6-5-9-1-6-6-5-9-9-3.mid

8-3-2-2-6-2-6-5-1-2-8-9-2-2-8-2

ldmt::57:18:11:12:45:14:47:40::1:10:59:68:13:14:63:16::

Perm. No.: 369128839914125



For audio (midi): ldmt-8-3-2-2-6-5-1-2-8-9-2-2-8-2.mid

8-5-4-7-6-1-8-4-8-1-7-9-1-6-4-6

ldmt::57:34:27:52:45:6:63:32::57:2:51:68:5:46:31:48::

Perm. No.: 1111067655596558



For audio (midi): ldmt-8-5-4-7-6-1-8-4-8-1-7-9-1-6-4-6.mid

8-5-9-6-9-8-4-6-7-2-3-6-5-5-8-6

ldmt::57:34:67:44:69:62:31:48::49:10:19:44:37:38:63:48::

Perm. No.: 1201054939664210



For audio (midi): ldmt-8-5-9-6-9-8-4-6-7-2-3-6-5-5-8-6.mid

8-6-4-6-5-5-8-3-4-8-5-8-2-4-7-2

ldmt::57:42:27:44:37:38:63:24::25:58:35:60:13:30:55:16::

Perm. No.: 351296383036742



For audio (midi): ldmt-8-6-4-6-5-5-8-3-4-8-5-8-2-4-7-2.mid

8-8-6-6-2-2-7-9-3-3-6-3-8-7-2

ldmt::57:58:59:44:45:14:15:56::65:18:19:44:21:62:55:16::

Perm. No.: 361674834102665



For audio (midi): ldmt-8-8-6-6-2-2-7-9-3-3-6-3-8-7-2.mid

8-9-1-7-5-2-3-8-7-7-4-6-2-5-5-5

ldmt::57:66:3:52:37:14:23:64::49:50:27:44:13:38:39:40::

Perm. No.: 925691574136157



For audio (midi): ldmt-8-9-1-7-5-2-3-8-7-7-4-6-2-5-5.mid

9 - 2 - 2 - 1 - 9 - 7 - 2 - 1 - 2 - 8 - 9 - 3 - 5 - 2 - 4 - 8

ldmt::65:10:11:4:69:54:15:8::9:58:67:20:37:14:31:64::

Perm. No.: 1513633298324571



For audio (midi): ldmt-9-2-2-1-9-7-2-1-2-8-9-3-5-2-4-8.mid

9 - 2 - 5 - 1 - 2 - 6 - 5 - 8 - 2 - 6 - 9 - 1 - 5 - 9 - 3 - 9

 ${\tt ldmt::65:10:35:4:13:46:39:64::9:42:67:4:37:70:23:72::}$

Perm. No.: 1714377196772739



For audio (midi): ldmt-9-2-5-1-2-6-5-8-2-6-9-1-5-9-3-9.mid

9-3-3-9-3-8-8-5-6-9-4-2-3-8-2-3

ldmt::65:18:19:68:21:62:63:40::41:66:27:12:21:62:15:24::

Perm. No.: 453062155810302



For audio (midi): ldmt-9-3-3-9-3-8-5-6-9-4-2-3-8-2-3.mid

9-5-8-3-5-5-8-8-5-8-7-2-2-6-6-4

ldmt::65:34:59:20:37:38:63:64::33:58:51:12:13:46:47:32::

Perm. No.: 745104340598580



For audio (midi): ldmt-9-5-8-3-5-5-8-8-5-8-7-2-2-6-6-4.mid

9-6-6-7-3-6-6-5-8-6-7-8-4-8-5-3

ldmt::65:42:43:52:21:46:47:40::57:42:51:60:29:62:39:24::

Perm. No.: 522172632072330



For audio (midi): ldmt-9-6-6-7-3-6-6-5-8-6-7-8-4-8-5-3.mid

9 - 7 - 6 - 2 - 6 - 1 - 4 - 3 - 3 - 7 - 8 - 4 - 1 - 6 - 9 - 6

ldmt::65:50:43:12:45:6:31:24::17:50:59:28:5:46:71:48::

Perm. No.: 1225300301734851



For audio (midi): ldmt-9-7-6-2-6-1-4-3-3-7-8-4-1-6-9-6.mid

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References

Anonymous. Ludus Melothedicus, ou Le Jeu de Dez Harmonique, 1759. URL https://imslp.org/wiki/Ludus_Melothedicus_(Anonymous). Retrieved Saturday, 20 February, 2021. 4

Ivars Peterson. Mozart's Melody Machine, 2001. URL https://www.sciencenews.org/article/mozarts-melody-machine-0. Retrieved Tuesday, 08 August, 2017 11:36:00 AM +08. 4

Wikipedia: Musikalisches Würferspiel. Wikipedia, The Free Encyclopedia, 2017. URL https://en.wikipedia.org/w/index.php?title=Musikalisches_W%C3%BCrfelspiel&oldid=787418377. Retrieved Tuesday, 08 August, 2017 12:56:17 AM +08. 4