Title: *A Suite: Pi*
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Abstract: *A Suite: Pi* is seven musical compositions celebrating Pi Day. Each of the seven pieces is composed using a musical scale with the same number of notes as found in pi of the chosen base. The songs use pi in bases 5, 6, 7, 8, and 12, and the notation of pi is shown in each song.

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A Suite: Pi

Seven musical compositions celebrating Pi Day

March 14, 2015
9:26:53am

By Karama Neal
Forward

A Suite: Pi celebrates Pi Day 2015 with seven musical compositions based on the mathematical constant pi, the ratio of a circle’s circumference to its diameter.

In our usual base ten, pi is the familiar 3.141592653. The digits go on both randomly and forever.

But in other number bases, pi is written with different digits. For example, in base five, pi is 3.032322143, again proceeding randomly and forever.

Just as base ten uses ten digits, base five uses only five digits: 0, 1, 2, 3, and 4.

Each of the seven pieces of A Suite: Pi is composed using a musical scale with the same number of notes as found in pi of the chosen base. So the songs for base five use a pentatonic scale with each note of the scale corresponding to one of the five digits used to write pi in base five. I chose the key and the rhythm, pi did the rest.

The seven pieces that follow are composed using pi in bases 5, 6, 7, 8, and 12, and the notation of pi is shown in each song. Thanks to Laurence Turner, PhD, for posting pi in various bases on his website.

The pieces use a pentatonic (5 note) folk scale, hexatonic (6 note) blues scale, heptatonic (7 note) major and minor scale, octatonic (8 note) jazz scale, and chromatic (12 note) scale.

Just as with the common major (heptatonic) scale - do re mi fa so la ti do - each scale used is set of musical notes ordered by their pitch. However, most of the chosen scales have more or fewer than seven notes. The notes and the intervals between them add to the character of each piece. Visit www.soundcloud.com/karamaneal to hear them.

Informed by the constraints presented by the math and the music, these seven pieces are my offering in celebration of the Pi Day of the Century.

I hope you enjoy these “songs in the key of pi.”

Karama Neal, PhD
March 2015
PiBase6 - Blueberry Pi

Karama Neal

Stomp or tap on beats 1 and 3.
PiBase12 - Cadaeic Pi

Hands play in different octaves anywhere on the keyboard.

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PiBase7 - Pi in the Sky

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PiBase8 - Piphilology

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