

MU 209 Assignment 2: Scales and Modes (2-sided)

Scalar distance. In the diatonic scale, some steps are major, some are minor; some thirds are major, some minor, and so on. Likewise the pentatonic scale has different sizes for various scalar distances. Complete this table:

Scalar distance	absolute size, using standard interval names	
	<i>smaller option</i>	<i>larger option</i>
scalar step	maj2	min3
scalar third	maj3	
scalar fourth		
scalar fifth		
scalar sixth (there is only one type)		

Diatonic modes. The Locrian mode is like natural minor with altered scale degrees $b\hat{2}$ and $b\hat{5}$. All the other diatonic modes are at most *one* scale-degree alteration from either the parallel major or the parallel natural minor scale (which are probably your most familiar points of reference). Complete the following table:

Ionian	major
Dorian	
Phrygian	
Lydian	
Mixolydian	
Aeolian	
Locrian	natural minor with $b\hat{2}$ and $b\hat{5}$

The octatonic scale. This scale (WHWHWHWH) is highly symmetrical: its pattern (WH) repeats every minor 3rd.

- How many distinct *modes* does it have? ____
- How many distinct *transpositions* does it have? ____

Which of the following chords can be found in the octatonic scale? Disregard note spelling (spelling may be arbitrary in non-diatonic scales). Hint: Because of the symmetric (repetitive) nature of the scale, you can do this by trying first on the first, then on the second degree of any octatonic scale. If you can't build the chord on either degree, it won't be possible anywhere else either. Conversely, the scale's symmetry tells us that any chord that *can* be formed has at least 3 other transpositions (i.e. a total of at least 4 instances) within the same scale, because its pattern repeats every 3 half steps.

	yes	no
major triad		
minor triad		
diminished triad		
augmented triad		
dominant seventh chord		

	yes	no
major seventh chord		
minor seventh chord		
half-dim. seventh chord		
fully-dim. seventh chord		
min. triad with major 7 th		
dominant seventh with flatted 5 th		

Practice playing the octatonic scale starting on C on your main instrument. One way to learn is by thinking of it as a familiar minor tetrachord (C-D-E $\flat$ -F) followed by another beginning a half-step above the last note (F $\sharp$ -G $\sharp$ -A-B). (You are likely to get lost if you try instead to think “WH” four times in a row!)

Modal ID.

Identify which mode forms the basis of the following melodies. Some have more than one possible answer. **Include the keynote** (modal tonic) in your answer and **look at the actual pitches present**—not just the key signature. Extra credit: name that tune!



(think carefully: what pitches are actually presented?)

