# Chapter 2

# The Keyboard and Notation of Pitch

## CHAPTER OVERVIEW

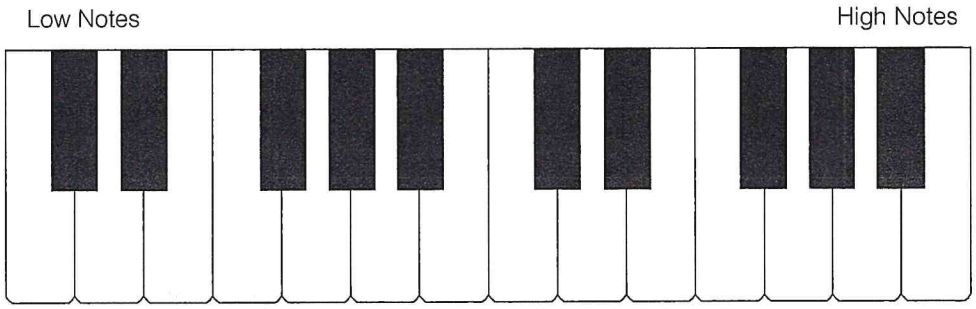
Melody is composed of musical sounds, which may be high or low according to vibrations of **pitch**—the "highness" or "lowness" of a musical sound. A high note can be called a high pitch, and a low note a low pitch. In this chapter you will be introduced to the basics of pitch. All melodies in this chapter contain the rhythms that were introduced in Chapter 1. You will be introduced to the musical staff (the plural is *staves*) that is used to notate pitch. The staff consists of a number of horizontal lines on and between which musical notes are placed. In addition, you will learn how to play melodies with your right and left hand on the piano. Understanding how to play a keyboard reinforces your ability to understand music fundamentals as well as helping you to create music. There is a folded, laminated keyboard at the back of the text for you to use. You should always have the keyboard open as you are studying music so that you can refer to it to help with your understanding of music theory concepts.

# 2.1 The Keyboard and Basic Concepts Associated with Pitch

Keyboards are useful aids in studying music fundamentals. They allow us to hear and visualize concepts in theory. The goal of this chapter is to introduce you to the general layout of a keyboard and to teach you to play simple melodies using the rhythms in Chapter 1.

## Orientation to the Keyboard

Look at the piano keyboard. The notes are lower as you move to the left and higher as you move to the right.



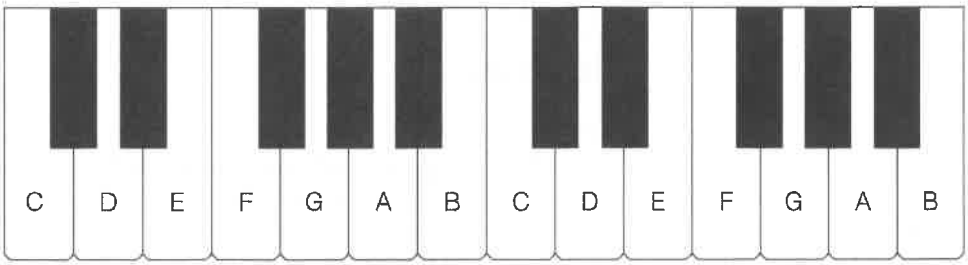

## Keyboard Design

The piano keyboard has white keys and black keys. A standard keyboard has 88 keys: 52 are white and 36 are black. All the black and white keys are identified with letter names.

## Naming White Keys

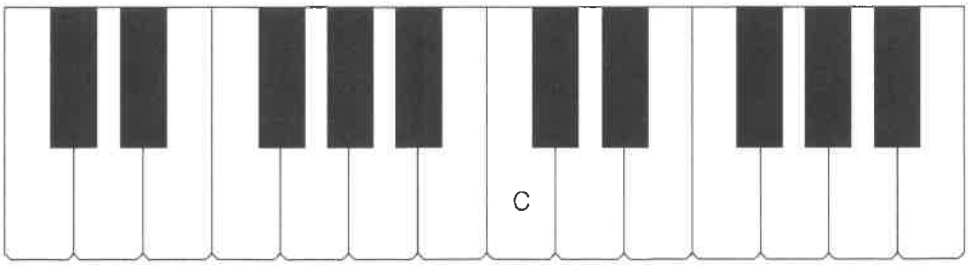
The first seven **letters** of the alphabet are used to identify keys: A–B–C–D–E–F–G. Notice that after the note G we start the alphabet again with A–B–C–D–E–F–G.

The relationship between two notes that have the same name is called an **octave**. For example, from C to the next C is called an octave: CDEFGABC. The second C is an octave higher than the first. We say the second C is in a higher register.



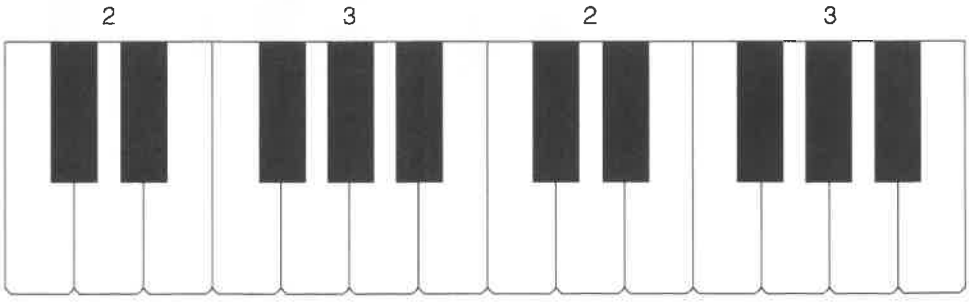

Key patterns of the keyboard are consistent.

You can find a C on the piano just to the left of any group of two black keys.




## Naming Black Keys

Notice the way the black keys are grouped on the keyboard. From the left side of the keyboard, only the first group has one black key. The others have two black keys or three black keys.



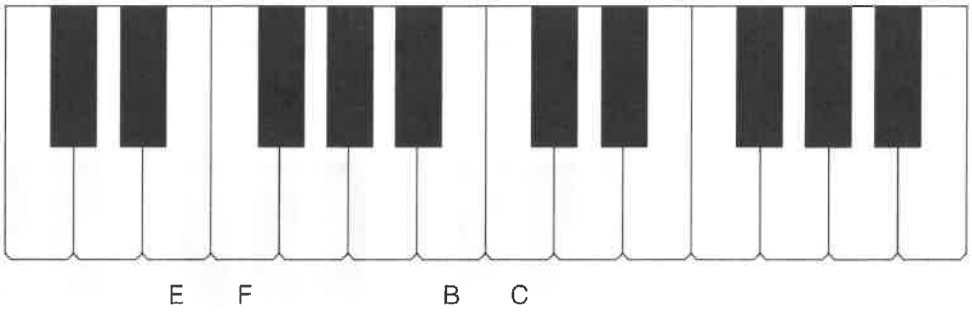
# 2.2 Whole-Step and Half-Step Intervals at the Keyboard

## Interval

An **interval** is the musical distance between two pitches.

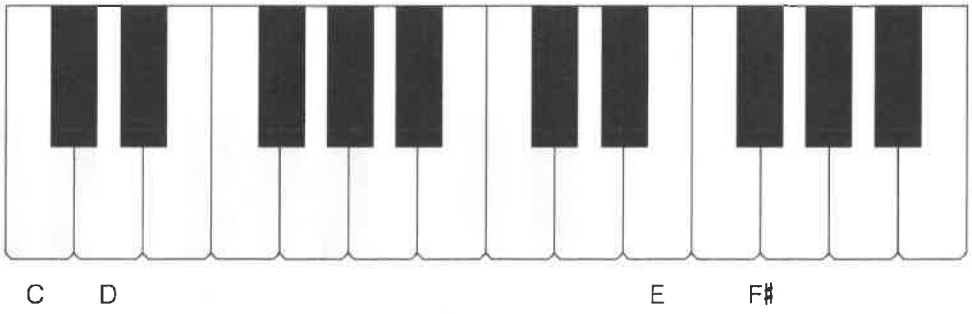
## Half Step

A **half step** is the smallest interval on the keyboard. It is the distance between two adjacent keys, regardless of color. The half step usually occurs between white keys and neighboring black keys. The half step occurs only in two places between white keys—between the notes E and F, and between the notes B and C.




## Whole Step

A **whole step** is the distance of two half steps on the keyboard. Whole steps can occur from white key to white key; from black key to black key; from white key to black key; and from black key to white key. From C to D is a whole step, and from E to F♯ is a whole step.

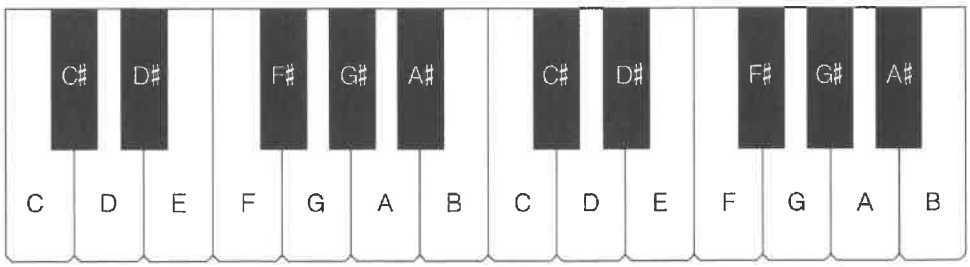



## Accidentals

All the black and white keys are identified with letter names from the musical alphabet. All keys can be identified by more than one name through the use of sharps and flats.

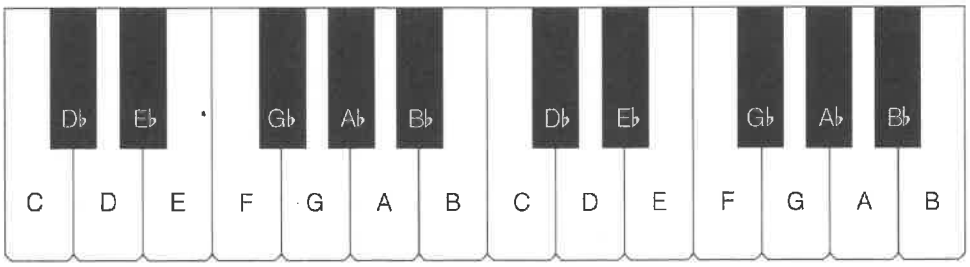
### Sharp

A **sharp sign** (♯) is the musical symbol that indicates that the note has been raised a half step in pitch to the next white or black key. The black key immediately to the right and above the white key is named by adding a sharp to the white-key name. Once a sharp is indicated within a measure, it remains in effect for the remainder of the measure.




### Flat

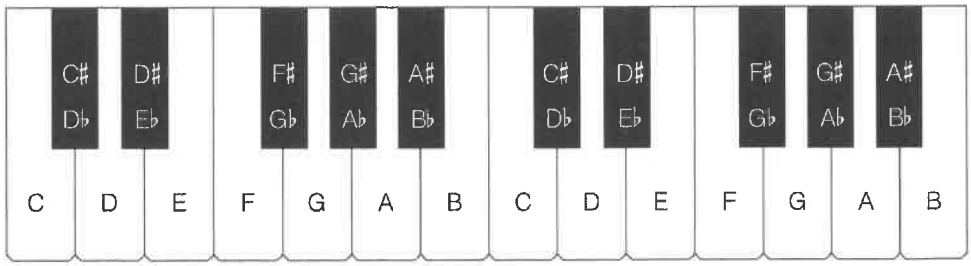
A **flat sign** (♭) is the musical symbol that indicates the note has been lowered a half step in pitch to the next white or black key. The black key immediately to the left and below a white key is named by adding a flat to the white-key name. Once a flat is indicated within a measure, it remains in effect for the remainder of the measure.




## Enharmonic Pitches

Notating the same pitch with a different note name is called an **enharmonic spelling** of the pitch.

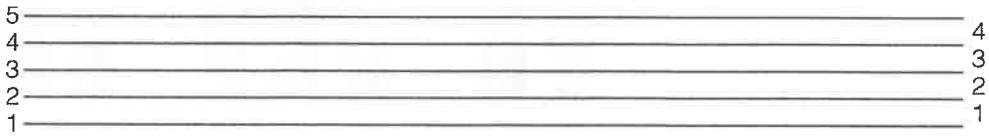
Black keys and white keys have at least two possible names. For example, an F♯ (F-sharp) can also be notated as G♭ (G-flat). The note F can also be notated as E-sharp (E♯). Remember that the same notes notated differently sound the same. Note that there isn't a black key between B and C or between E and F. Enharmonic spelling of B can be C-flat, C is B-sharp, E is F-flat, and F is E-sharp.



# 2.3 Treble Clef and Introduction to the Notation of Pitch

## Music Notation

Pitch is indicated with notes on the **staff**. The staff is made up of five lines and four spaces. The lines and spaces are always numbered from the bottom to the top.

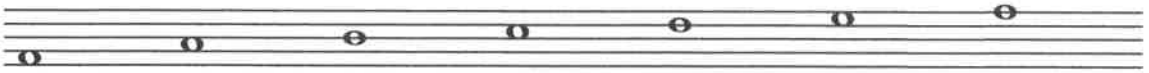



Notes represent musical pitches on the staff. Notes are written on lines or in spaces on the staff.

The following staff contains notes on lines. Notice that the lines go through the middle of the note heads.

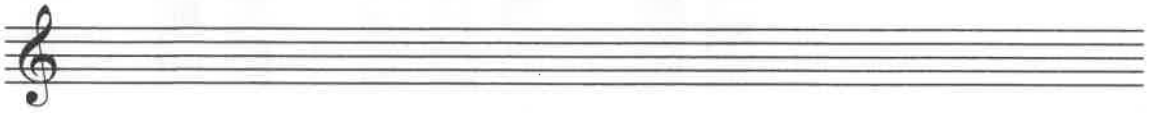
The next staff contains notes in spaces. Notice that the note heads sit in the space between the lines.

In the next staff, you can see that notes can be placed on a staff on lines or in spaces. Lower pitches are placed lower on the staff; higher pitches are placed higher.



## The Treble Clef, or G Clef

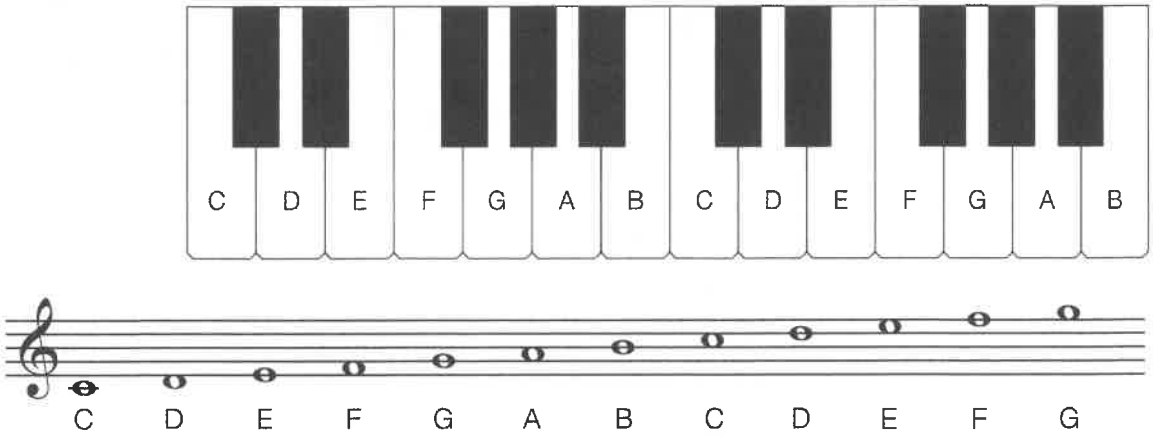
The **treble clef**, or **G clef**, identifies the second line on the staff as G, five notes above middle C. Your instructor will show you where middle C is located on the piano. The treble clef normally indicates playing the keyboard with the right hand. Notice how the treble clef sign circles around the second line, G.



Once G is established on the staff, the remaining pitches can be determined.

### Notating White Keys in the Treble Clef

Consecutive letter names that move up or down the keyboard alternate between lines and spaces.




All letter names are arranged according to the alphabetical sequence of letters. Once a pitch has been identified on the staff, the other pitches follow in sequence. Note the repetition of letter names and the placement of note heads on the staff. Note heads are placed around a line or in a space to indicate different musical notes.

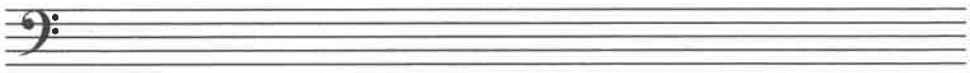
The following hints will help in memorizing the names of the lines and spaces in the treble clef. Remember to start on the first line or space (bottom) of each clef.

Treble lines: E, G, B, D, F; Every Good Boy Does Fine.
Treble spaces: F-A-C-E spells "face."

## 2.4 Bass Clef, Ledger Lines, and Octave Sign

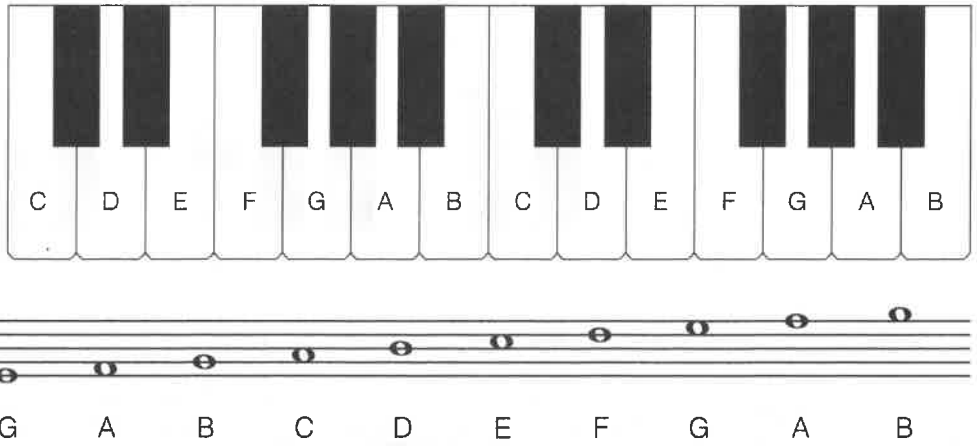
### The Bass Clef, or F Clef

The **bass clef**, or **F clef**, identifies the fourth line as F. Notice that the two dots surround the F line.



A note written on this bass clef F line is positioned five notes below middle C on the piano. Other pitches may be derived from the F clef. The bass clef normally indicates playing the keyboard with the left hand.

## Notating White Keys in the Bass Clef



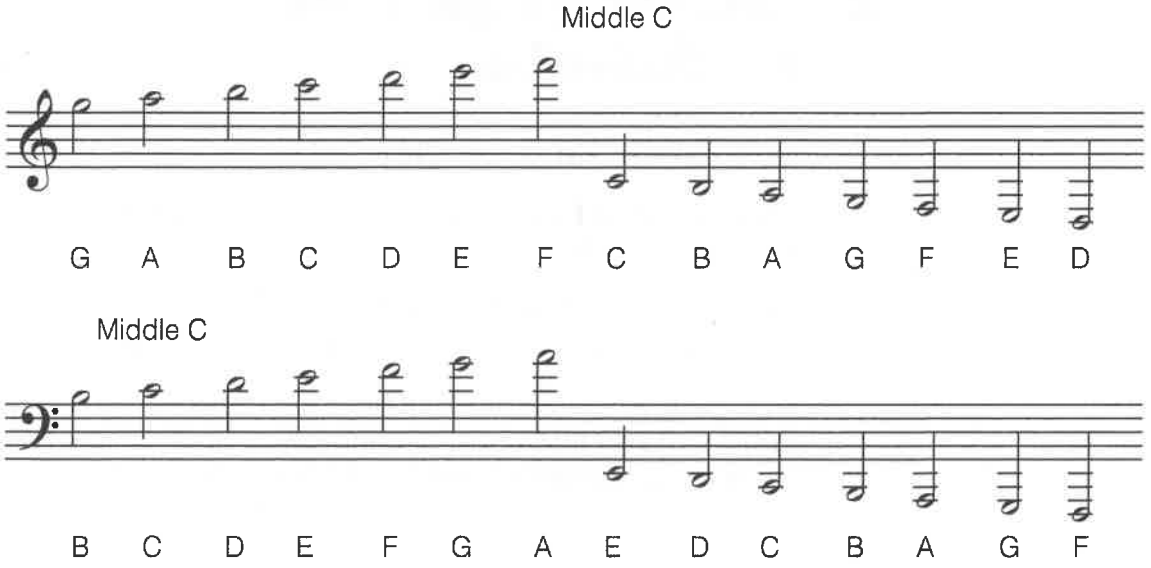

When naming notes, remember that all letter names are arranged according to the alphabetical sequence.

The following will help in memorizing the names of the lines and spaces of the notes in the bass clef.

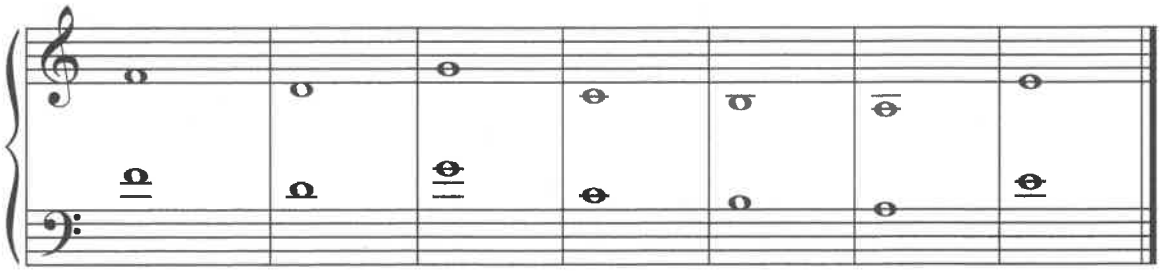
Bass line notes: G, B, D, F, A; Good Boys Do Fine Always.
Bass space notes: A, C, E, G; All Cows Eat Grass.

## Ledger Lines

Notes are sometimes higher or lower than the notes that can be written on the staff. We use ledger lines to show these notes. **Ledger lines** are short lines used to extend the staff above or below the five lines. The sequence of the line and space note-names continues.

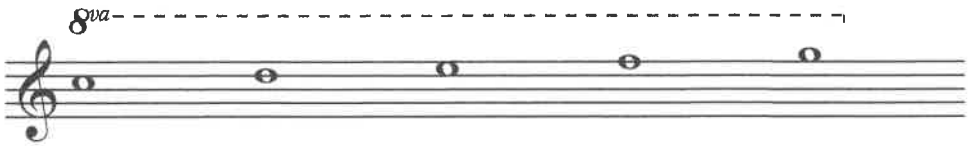


The spacing between ledger lines should be equal to the space between staff lines. Notes written as ledger lines in one clef can appear as notes on the staff in another clef. For example, the following notes have the same number of vibrations per second; however, they are written in two different clefs; In other words, the notes written in the treble staff are exactly the same as those underneath them written in the bass staff.

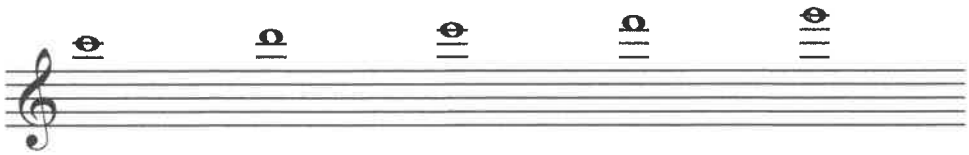


## The Octave Sign

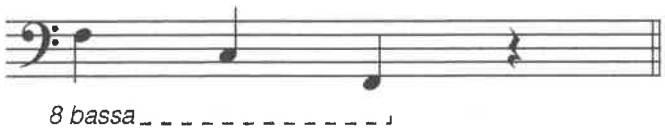
An **octave sign** above a group of notes indicates that the notes are to be played one octave higher: (*8va....*). Consistent use of ledger lines makes music difficult to read. To make the reading easier, an octave sign is used.



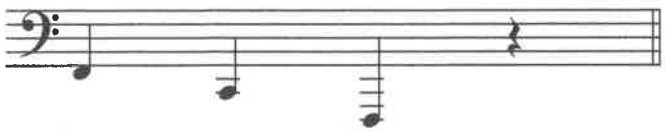

is the same as:



An octave sign (*8va...*) below a group of notes indicates that the notes are to be played one octave lower.

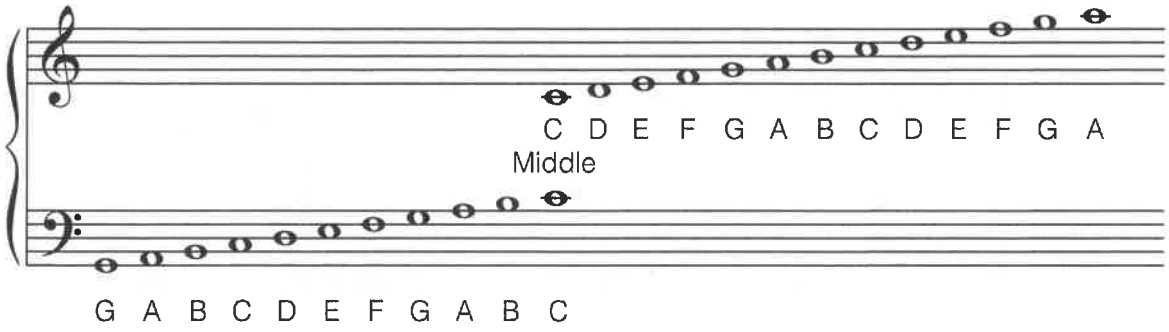



The above example will sound the same as the one below.



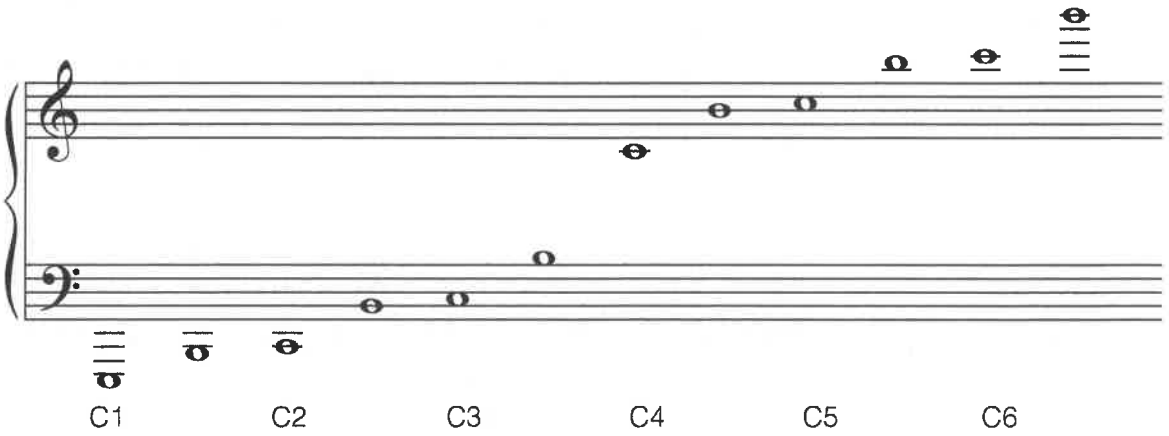
## The Grand Staff

A **grand staff** is the combination of the treble staff and the bass staff grouped together by a vertical line and a brace. Music for the piano is written on the grand staff. Middle C appears on a ledger line in the treble clef as well as in the bass clef.




## Octave Identification

We can use numbers to identify pitches in a particular octave. Middle C is always C4; the C an octave above middle C is C5; the C an octave below middle C is C3.




# 2.5 Notating Sharps and Flats on the Staff

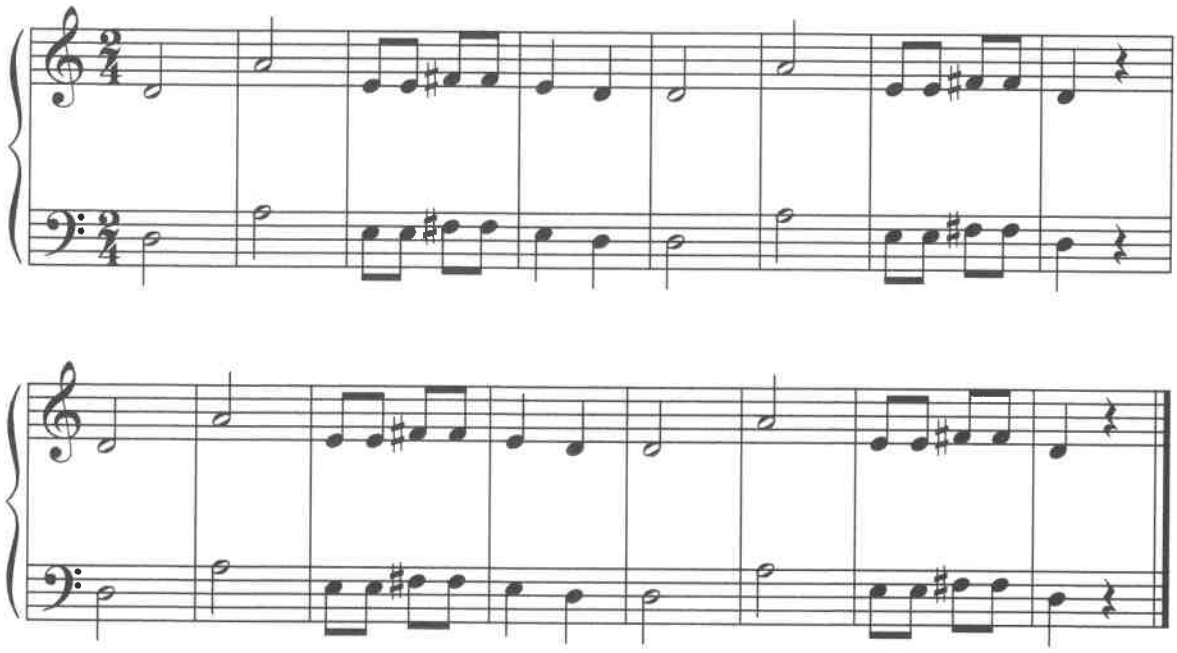
## Notating Sharps on the Staff

Sharps on the staff are placed before the notes to which they refer. Even though we say F-sharp, the sharp sign needs to precede the note to which it refers. The sharp symbol must enclose the line or space of the note that is raised. There are two steps in writing sharps:

1. Draw two vertical parallel lines before the note.
2. Complete the sharp sign by drawing two diagonal lines, making sure that the accidental is on the same line or space as the note it belongs to.

In the following song, observe that every F is sharped. Once a sharp is indicated within a measure, it remains in effect for the remainder of the measure.

***Who's That Tapping at the Window*** **American Folk Song**



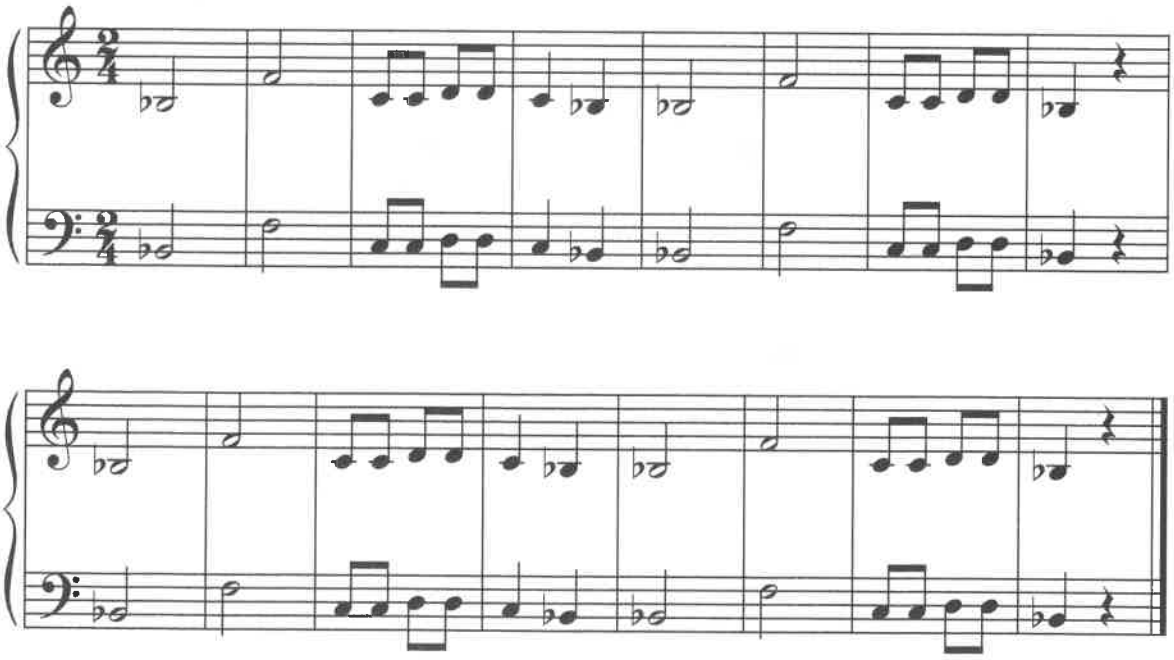
## Notating Flats on the Staff

Like sharps, flats must be placed before the note even though we say B-flat; the flat sign (♭) needs to precede the note to which it refers. It is important to enclose the line or space of the note that is lowered. There are two steps in writing flats.

1. Draw a vertical line before the note.
2. Complete the flat sign as indicated below.

In the following song, observe that every B is a B-flat. Remember, once a flat is indicated within a measure, it remains in effect for the remainder of the measure.

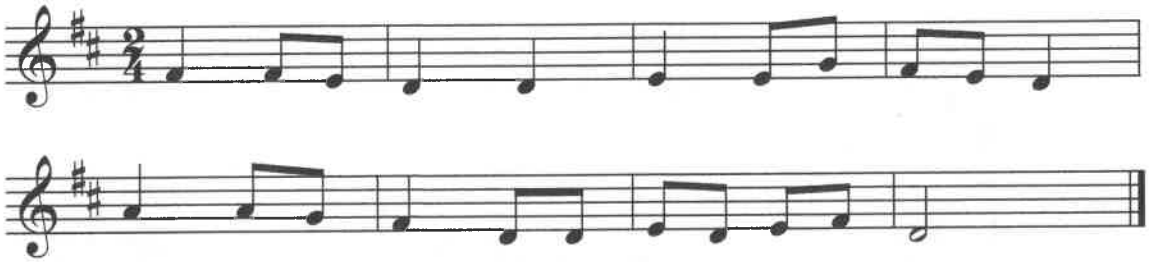
***Who's That Tapping at the Window*** **American Folk Song**



## Key Signature

Reading a piece of music becomes much easier when we know which accidentals are to be played throughout. The **key signature**, a sharp or group of sharps or a flat or group of flats at the beginning of a piece of music, tells us what accidentals are to be played throughout the piece. For example, the one sharp in the key signature of "Aunt Rhody" in the example below tells us that F-sharp is to be played every time we see an F written on the staff. You will learn more about key signatures in Chapter 5.

***Aunt Rhody***



## Natural (♮)

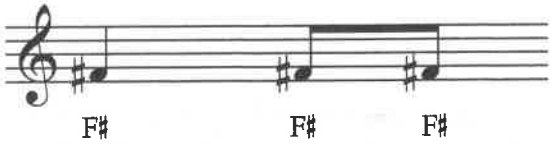
The function of a **natural sign** (♮) is to cancel the preceding sharp or flat. It remains in effect in the part where it is placed for the duration of the measure.

As with the sharp and flat signs, the natural sign (♮) must be placed before the note to which it refers. Just as with sharps and flats, we enclose the line or space of the note with the square section of the natural sign.

## Accidentals Within a Measure of Music

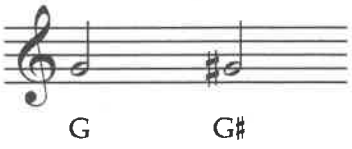
We know that when a note has been altered by an accidental, that note will remain altered for the duration of the measure. Accidentals in a treble clef do not apply to the same note in the bass part or vice versa. If we do not want the note to be altered for the duration of the measure, we add in a natural sign to the next appearance of the note.

will be played as follows:



## Chromatic Half Step

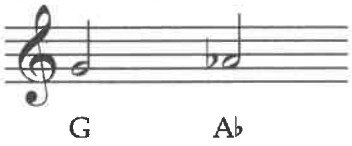
A **chromatic half step** is two pitches that use the same letter name but are a half step apart.




G to G♯ is referred to as a chromatic half step. B to B-flat and C to C-flat are other examples of chromatic half steps.

## Diatonic Half Step

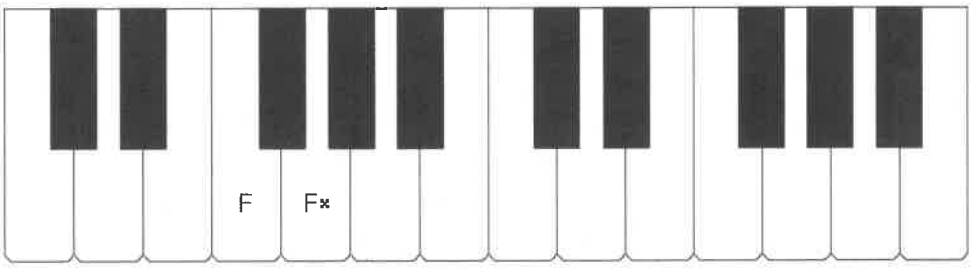
The distance between G and A♭ is a half step. A **diatonic half step** uses two different letter names; G to A♭ is referred to as a diatonic half step. Chromatic half steps use the same letter names for notes that are a half step apart, and diatonic half steps use adjacent letter names.




half-step interval

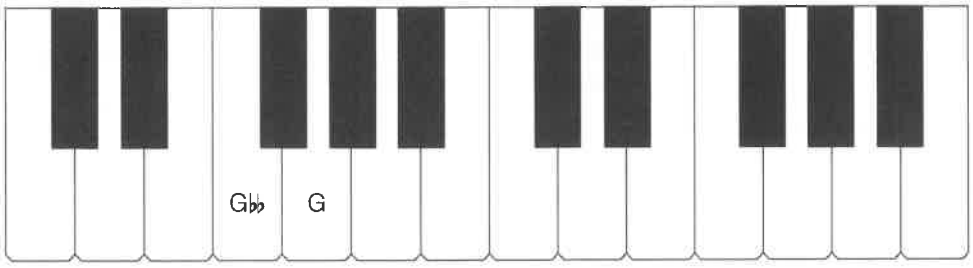
## Double Sharp

A **double sharp** (𝄪) raises a pitch by two half steps.
In the following example, F-double-sharp is an enharmonic spelling of G; therefore, it is notated differently but sounds the same.




## Double Flat

A **double flat** (𝄫) lowers the pitch by two half steps. In the following figure, G𝄫 is an enharmonic spelling of F. It is notated differently but sounds the same.



## Canceling Part of a Double Flat or Double Sharp

If you have a C-double-sharp and you want to replace it with a C-sharp in the same measure, you must put a sharp sign in front of the second C.

# Key Terms and Concepts

| | | |
|---|---|---|
| Pitch | Flat Sign | Grand Staff |
| Letter Names | Enharmonic Spelling | Key Signature |
| Octave | Staff | Natural Sign |
| Interval | Treble Clef, or G Clef | Chromatic Half Step |
| Half Step | Bass Clef, or F Clef | Diatonic Half Step |
| Whole Step | Ledger Lines | Double Sharp |
| Sharp Sign | Octave Sign | Double Flat |

# How to Practice

Mastery of playing the piano takes many hours of practice. But we can make practice more efficient by using a variety of practice techniques. If possible, practice with another student who has taken piano lessons, as this will be invaluable to your development and it will provide you with the opportunity of peer assessment.

Here are some useful suggestions for practicing a simple piano piece:

| | |
|---|---|
| Performing the Rhythm and the Beat at the Same Time | Divide into two groups: one group performs the rhythm of the piece; the other keeps the beat. Practice this activity in different combinations:<br>• Instructor/class<br>• Class/instructor<br>• Divided class<br>• Two individual students<br>Individually, keep the beat with one hand and tap the rhythm with the other hand. |
| Counting | Sing or speak the rhythm syllables of the piano piece while tapping the beat.<br>Count with numbers as you keep the beat. |
| Melody | Identify all the notes in the piece of music from the lowest to highest. Play the notes on the piano from lowest to highest. Sing these notes with letter names.<br>Try to sing the melodies with letter names.<br>Try to hum the melodies as you conduct.<br>Identify the phrases and the form of the melodies. |
| Performing | Clap the rhythm of the piano piece as you say the rhythm syllables.<br>Say the rhythm syllables as you move the fingers you are going to play with in the air.<br>Sing the letter names as you move the fingers you are going to play with in the air.<br>Play the example on the piano. |
| Memory | Memorize each piano piece. First analyze the form by looking for repeated and similar parts. This will simplify the task. |
| Improvisation/Composition | Improvise a variation. Maybe compose a new ♭ section to a piece of music. |