Frequency Tables, Histograms, Stem-and-Leaf
Contemporary Math

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Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44		
45 – 49		
50 – 54		
55 – 59		
60 – 64		
65 – 69		
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, **42**, 51, 56, 55, 51, 54, 51, 60, 62, **43**, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	**2**	
45 – 49		
50 – 54		
55 – 59		
60 – 64		
65 – 69		
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

  54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, **46**, 54, **47**

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	
45 – 49	**2**	
50 – 54		
55 – 59		
60 – 64		
65 – 69		
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, **51**, 56, 55, **51**, **54**, **51**, 60, 62, 43, 55, 56, 61, **52**, 69, 64, 46, **54**, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	
45 – 49	2	
50 – 54	**7**	
55 – 59		
60 – 64		
65 – 69		
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, **56**, **55**, 51, 54, 51, 60, 62, 43, **55**, **56**, 61, 52, 69, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	
45 – 49	2	
50 – 54	7	
55 – 59	**4**	
60 – 64		
65 – 69		
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, **60**, **62**, 43, 55, 56, **61**, 52, 69, **64**, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	
45 – 49	2	
50 – 54	7	
55 – 59	4	
60 – 64	**4**	
65 – 69		
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, **69**, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	
45 – 49	2	
50 – 54	7	
55 – 59	4	
60 – 64	4	
65 – 69	**1**	
TOTAL:		

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	
45 – 49	2	
50 – 54	7	
55 – 59	4	
60 – 64	4	
65 – 69	1	
TOTAL:	20	

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47
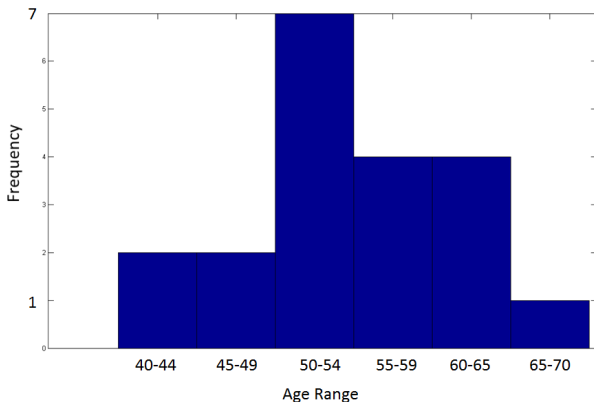
Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
40 – 44	2	$2/\mathbf{20} = 0.10 = 10\%$
45 – 49	2	$2/\mathbf{20} = 0.10 = 10\%$
50 – 54	7	$7/\mathbf{20} = 0.35 = 35\%$
55 – 59	4	$4/\mathbf{20} = 0.20 = 20\%$
60 – 64	4	$4/\mathbf{20} = 0.20 = 20\%$
65 – 69	1	$1/\mathbf{20} = 0.05 = 5\%$
TOTAL:	**20**	$20/\mathbf{20} = 1 = 100\%$

Frequency Tables (Example)

WEX 14-1-1: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency & relative frequency table for the data.

AGE RANGE	FREQUENCY	RELATIVE FREQUENCY
$40 - 44$	2	$2/20 = 0.10 = 10\%$
$45 - 49$	2	$2/20 = 0.10 = 10\%$
$50 - 54$	7	$7/20 = 0.35 = 35\%$
$55 - 59$	4	$4/20 = 0.20 = 20\%$
$60 - 64$	4	$4/20 = 0.20 = 20\%$
$65 - 69$	1	$1/20 = 0.05 = 5\%$
TOTAL:	20	$20/20 = 1 = 100\%$

Histograms (Example)

WEX 14-1-2: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency histogram for the data.

Histograms (Example)

WEX 14-1-2: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a frequency histogram for the data.

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

  54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

  42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number:

STEMS	AGES (LEAVES)

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, **4**3, **4**6, **4**7, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number:

STEMS	AGES (LEAVES)
4	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, 43, 46, 47, **5**1, **5**1, **5**1, **5**2, **5**4, **5**4, **5**4, **5**5, **5**5, **5**6, **5**6, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number:

STEMS	AGES (LEAVES)
4	
5	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, **6**0, **6**1, **6**2, **6**4, **6**9

Now, build the **stems** using the 2nd **digit** of each number:

STEMS	AGES (LEAVES)
4	
5	
6	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

  54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

  42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number:

STEMS	AGES (LEAVES)
4	
5	
6	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

STEMS	AGES (LEAVES)
4	
5	
6	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

4**2**, 4**3**, 4**6**, 4**7**, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

STEMS	AGES (LEAVES)
4	**2 3 6 7**
5	
6	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, 43, 46, 47, 5**1**, 5**1**, 5**1**, 5**2**, 5**4**, 5**4**, 5**4**, 5**5**, 5**5**, 5**6**, 5**6**, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

STEMS	AGES (LEAVES)
4	2 3 6 7
5	**1 1 1 2 4 4 4 5 5 6 6**
6	

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

  54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

  42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 6**0**, 6**1**, 6**2**, 6**4**, 6**9**

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

STEMS	AGES (LEAVES)
4	2 3 6 7
5	1 1 1 2 4 4 4 5 5 6 6
6	**0 1 2 4 9**

Stem-and-Leaf Displays (Example)

WEX 14-1-3: Given the ages of all U.S. Presidents from 1901-2009:

54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a stem-and-leaf display for the data

First, **sort** the data:

42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

STEMS	AGES (LEAVES)
4	2 3 6 7
5	1 1 1 2 4 4 4 5 5 6 6
6	0 1 2 4 9

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:

1789-1900:
57,61,57,57,58,57,61,54,68,51,49,64,50,48,65,52,56,46,54,49,51,47,55,55

1901-2009:
54, 42, 51, 56, 55, 51, 54, 51, 60, 62, 43, 55, 56, 61, 52, 69, 64, 46, 54, 47

Construct a back-to-back stem-and-leaf display for the data.

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.

AGES (1789-1900)	STEMS	AGES (1901-2009)
	4	
	5	
	6	

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:

Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

1901-2009:
4**2**, 4**3**, 4**6**, 4**7**, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
	4	**2 3 6 7**
	5	
	6	

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

<u>1789-1900:</u>
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

<u>1901-2009:</u>
42, 43, 46, 47, 5**1**, 5**1**, 5**1**, 5**2**, 5**4**, 5**4**, 5**4**, 5**5**, 5**5**, 5**6**, 5**6**, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
	4	2 3 6 7
	5	**1 1 1 2 4 4 4 5 5 6 6**
	6	

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 6**0**, 6**1**, 6**2**, 6**4**, 6**9**

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
	4	2 3 6 7
	5	1 1 1 2 4 4 4 5 5 6 6
	6	**0 1 2 4 9**

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
	4	2 3 6 7
	5	1 1 1 2 4 4 4 5 5 6 6
	6	0 1 2 4 9

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:

Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
4**6**,4**7**,4**8**,4**9**,4**9**,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
9 9 8 7 6	4	2 3 6 7
	5	1 1 1 2 4 4 4 5 5 6 6
	6	0 1 2 4 9

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,5**0**,51,5**1**,5**2**,5**4**,54,5**5**,55,5**6**,57,5**7**,5**7**,57,5**8**,61,61,64,65,68

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
9 9 8 7 6	4	2 3 6 7
8 7 7 7 7 6 5 5 4 4 2 1 1 0	5	1 1 1 2 4 4 4 5 5 6 6
	6	0 1 2 4 9

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,6**1**,6**1**,6**4**,6**5**,6**8**

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
9 9 8 7 6	4	2 3 6 7
8 7 7 7 7 6 5 5 4 4 2 1 1 0	5	1 1 1 2 4 4 4 5 5 6 6
8 5 4 1 1	6	0 1 2 4 9

Back-to-Back Stem-and-Leaves (Example)

WEX 14-1-4: Given the ages of all U.S. Presidents grouped as follows:
Construct a back-to-back stem-and-leaf display for the data.

First, **sort** the data.

1789-1900:
46,47,48,49,49,50,51,51,52,54,54,55,55,56,57,57,57,57,58,61,61,64,65,68

1901-2009:
42, 43, 46, 47, 51, 51, 51, 52, 54, 54, 54, 55, 55, 56, 56, 60, 61, 62, 64, 69

Now, build the **stems** using the 2nd **digit** of each number.
Finally, build the **leaves** using the 1st **digit** of each number:

AGES (1789-1900)	STEMS	AGES (1901-2009)
9 9 8 7 6	4	2 3 6 7
8 7 7 7 7 6 5 5 4 4 2 1 1 0	5	1 1 1 2 4 4 4 5 5 6 6
8 5 4 1 1	6	0 1 2 4 9

Fin.