Human Survivorship / EcoInformatics Lab Exercise at Wilkes University

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SUMMARY

This exercise requires students to collect, compile and analyze data pertaining to survivorship, which is a key property of the ecology of any species.

OBJECTIVES

Through this exercise, students learn how to:

- Collect raw data (pertaining to human longevity)
- Input their data into a spreadsheet, following a specified format
- Perform an initial QA check on the data
- Electronically submit their data to the instructor following a uniform protocol
- Retrieve the class data from the Internet
- Convert posted data to an Excel spreadsheet
- Analyze the class data using Excel functions, to detect trends, describe differences between sub-populations, and answer posed questions
- Interpret the validity of their data in relation to the posed questions

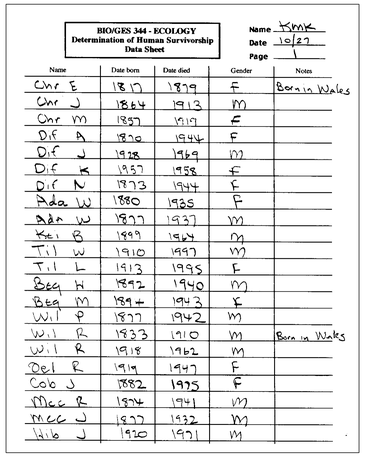
TIMING

This exercise is conducted over a three-week period:

Week 1: Students collect the data, enter their numbers into a spreadsheet, perform the QA, and are given instructions on submitting to the instructor.

Week 2: Students learn how the data were uploaded to the web, and how to convert the posted data into a spreadsheet. Students manipulate the data to generate general and sub-population survivorship curves.

Week 3: Students submit a report that answers questions and includes representative data.

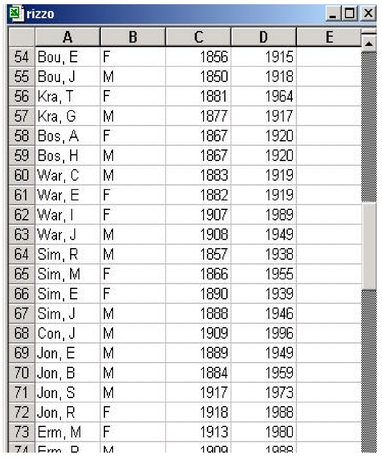


BIO/GES 344 - ECOLOGY
Determination of Human Survivorship
Data Sheet

Name Kmk
Date 10/27
Page 1

Name	Date born	Date died	Gender	Notes
Chr E	1817	1879	F	Born in Wales
Chr J	1864	1913	M	
Chr M	1857	1919	F	
Dif A	1870	1944	F	
Dif J	1928	1969	M	
Dif K	1957	1958	F	
Dif N	1873	1944	F	
Ada W	1880	1935	F	
Adr W	1877	1937	M	
Kel B	1899	1964	M	
Til W	1910	1997	M	
Til L	1913	1995	F	
Beg H	1892	1940	M	
Beg M	1894	1943	F	
Wil P	1877	1942	M	
Wil R	1833	1910	M	Born in Wales
Wil R	1918	1962	M	
Del R	1919	1947	F	
Cole J	1882	1975	F	
Mcc R	1894	1941	M	
Mcc J	1877	1932	M	
Wil J	1920	1971	M	

Sample datasheet showing fields for coded name, birthdate, deathdate, and gender. Most students complete 8-10 of these sheets in the course of the first lab session.



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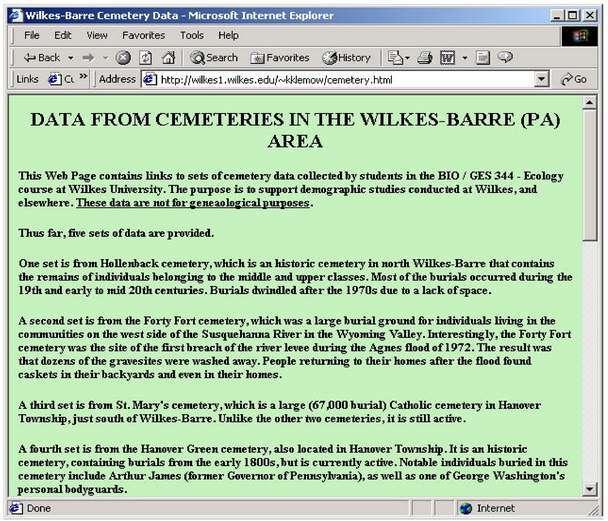
	A	B	C	D	E
54	Bou, E	F	1856	1915	
55	Bou, J	M	1850	1918	
56	Kra, T	F	1881	1964	
57	Kra, G	M	1877	1917	
58	Bos, A	F	1867	1920	
59	Bos, H	M	1867	1920	
60	War, C	M	1883	1919	
61	War, E	F	1882	1919	
62	War, I	F	1907	1989	
63	War, J	M	1908	1949	
64	Sim, R	M	1857	1938	
65	Sim, M	F	1866	1955	
66	Sim, E	F	1890	1939	
67	Sim, J	M	1888	1946	
68	Con, J	M	1909	1996	
69	Jon, E	M	1889	1949	
70	Jon, B	M	1884	1959	
71	Jon, S	M	1917	1973	
72	Jon, R	F	1918	1988	
73	Erm, M	F	1913	1980	
74	Erm, R	M	1909	1988	

Sample spreadsheet showing data in appropriate fields, following correct format. After a QA assessment, students email their files to the instructor, for subsequent collation.



Wilkes-Barre Cemetery Data - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites History

Address http://wilkes1.wilkes.edu/~kklemow/cemetery.html

DATA FROM CEMETERIES IN THE WILKES-BARRE (PA) AREA

This Web Page contains links to sets of cemetery data collected by students in the BIO / GES 344 - Ecology course at Wilkes University. The purpose is to support demographic studies conducted at Wilkes, and elsewhere. These data are not for geneaological purposes.

Thus far, five sets of data are provided.

One set is from Hollenback cemetery, which is an historic cemetery in north Wilkes-Barre that contains the remains of individuals belonging to the middle and upper classes. Most of the burials occurred during the 19th and early to mid 20th centuries. Burials dwindled after the 1970s due to a lack of space.

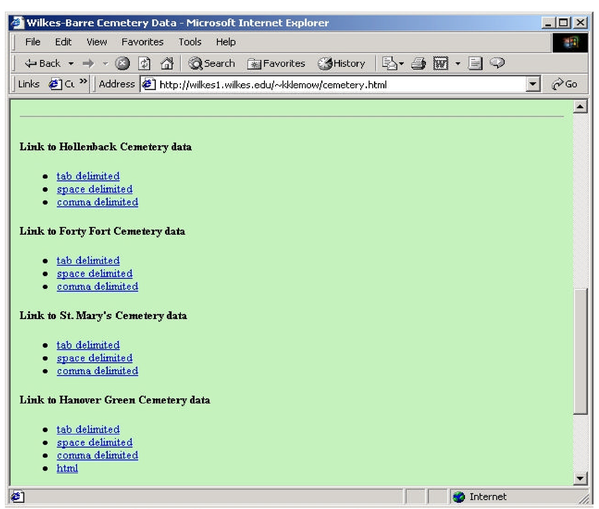
A second set is from the Forty Fort cemetery, which was a large burial ground for individuals living in the communities on the west side of the Susquehanna River in the Wyoming Valley. Interestingly, the Forty Fort cemetery was the site of the first breach of the river levee during the Agnes flood of 1972. The result was that dozens of the gravesites were washed away. People returning to their homes after the flood found caskets in their backyards and even in their homes.

A third set is from St. Mary's cemetery, which is a large (67,000 burial) Catholic cemetery in Hanover Township, just south of Wilkes-Barre. Unlike the other two cemeteries, it is still active.

A fourth set is from the Hanover Green cemetery, also located in Hanover Township. It is an historic cemetery, containing burials from the early 1800s, but is currently active. Notable individuals buried in this cemetery include Arthur James (former Governor of Pennsylvania), as well as one of George Washington's personal bodyguards.

Done Internet

Top of Wilkes-Barre cemetery demography homepage. Note URL is given.



Wilkes-Barre Cemetery Data - Microsoft Internet Explorer

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Back Search Favorites History

Address http://wilkes1.wilkes.edu/~kklemow/cemetery.html

Link to Hollenback Cemetery data

- tab delimited
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Link to Forty Fort Cemetery data

- tab delimited
- space delimited
- comma delimited

Link to St. Mary's Cemetery data

- tab delimited
- space delimited
- comma delimited

Link to Hanover Green Cemetery data

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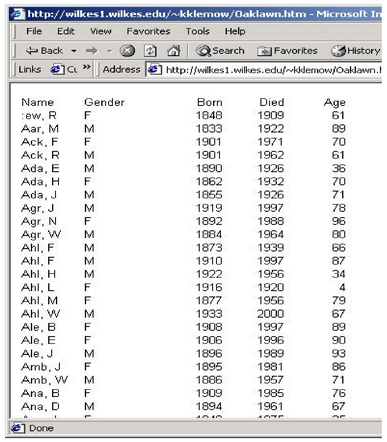
- space delimited
- comma delimited
- html

Internet

Links portion of the Wilkes-Barre cemetery demography page showing options. Data from five cemeteries are posted.



http://wilkes1.wilkes.edu/~kklemow/Oaklawn.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

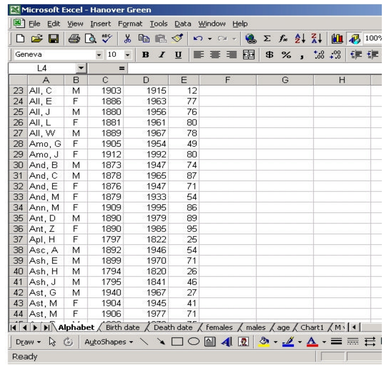
Back Search Favorites History

Address http://wilkes1.wilkes.edu/~kklemow/Oaklawn.htm

Name	Gender	Born	Died	Age
ew, R	F	1848	1909	61
Aar, M	M	1833	1922	89
Ack, F	F	1901	1971	70
Ack, R	M	1901	1962	61
Ada, E	M	1890	1926	36
Ada, H	F	1862	1932	70
Ada, J	M	1855	1926	71
Agr, J	M	1919	1997	78
Agr, N	F	1892	1988	96
Agr, W	M	1884	1964	80
Ahl, F	M	1873	1939	66
Ahl, F	M	1910	1997	87
Ahl, H	M	1922	1956	34
Ahl, L	F	1916	1920	4
Ahl, M	F	1877	1956	79
Ahl, W	M	1933	2000	67
Ale, B	F	1908	1997	89
Ale, E	F	1906	1996	90
Ale, J	M	1896	1989	93
Amb, J	F	1895	1981	86
Amb, W	M	1886	1957	71
Ana, B	F	1909	1985	76
Ana, D	M	1894	1961	67

Done

Webpage showing data for Oaklawn Cemetery. This file was created by saving the master spreadsheet as an HTML format, then uploading to the Wilkes University server. Students are asked to save this file as a .txt format to their hard drive.



Microsoft Excel - Hanover Green

File Edit View Insert Format Tools Data Window Help

Geneva 10

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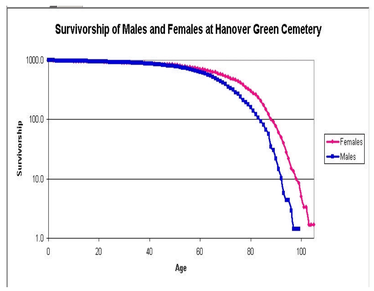
	A	B	C	D	E	F	G	H
23	All, C	M	1903	1915	12			
24	All, E	F	1886	1963	77			
25	All, J	M	1880	1956	76			
26	All, L	F	1881	1961	80			
27	All, W	M	1889	1967	78			
28	Amo, G	F	1905	1954	49			
29	Amo, J	F	1912	1992	80			
30	And, B	M	1873	1947	74			
31	And, C	M	1878	1965	87			
32	And, E	F	1876	1947	71			
33	And, M	F	1879	1933	54			
34	Ann, M	F	1909	1995	86			
35	Ant, D	M	1890	1979	89			
36	Ant, Z	F	1890	1985	95			
37	Apl, H	F	1797	1822	25			
38	Asc, A	M	1892	1946	54			
39	Ash, E	M	1899	1970	71			
40	Ash, H	M	1794	1820	26			
41	Ash, J	M	1795	1841	46			
42	Ast, G	M	1940	1967	27			
43	Ast, M	F	1904	1945	41			
44	Ast, M	F	1906	1977	71			

Alphabet / Birth date / Death date / females / males / age / Chart1 / M

Ready

Excel file showing the entire dataset. This file was created by saving the webpage containing the data as a .txt format to the hard drive, then opening by Excel. The spreadsheet automatically parses the data into columns. Students check the dataset to ensure that all columns align properly. Any that do not are manually corrected.



This is a sample survivorship curve created by manipulating the data obtained from the web. Students are led through the calculations necessary to provide useful survivorship information in Week 2. These particular curves compare survivorship for males vs females, and show that females tend to show higher survivorship by 4-6 years.

ISSUES

- Two problems related to data input arise from keyboarding errors and lack of a uniform format. After inputting all of their data, students perform a QA by sorting based on name, and determining the age of each individual. Errors can be quickly found.
- Students vary in their proficiency with Excel; those less prepared sometimes hold back the class.
- Modification of this exercise could allow comparisons between local cemeteries (Protestant vs Catholic), as well as out-of-region cemeteries.