Appendix A: Data Sets

A.1 Men's Summer Olympics Gold Medal Results

Year	High Jump (m)	Discus Throw (m)	Long Jump (m)
1896	1.81	29.15	6.35
1900	1.90	36.04	7.19
1904	1.80	39.28	7.34
1908	1.91	40.89	7.48
1912	1.93	45.21	7.60
1920	1.94	44.68	7.15
1924	1.98	46.15	7.45
1928	1.94	47.32	7.74
1932	1.97	49.49	7.64
1936	2.03	50.48	8.06
1948	1.98	52.78	7.82
1952	2.04	55.04	7.57

Year	High Jump (m)	Discus Throw (m)	Long Jump (m)
1956	2.11	56.35	7.83
1960	2.16	59.18	8.12
1964	2.18	61.00	8.07
1968	2.24	64.78	8.90
1972	2.23	64.39	8.24
1976	2.25	67.50	8.34
1980	2.36	66.65	8.54
1984	2.35	66.60	8.54
1988	2.38	68.82	8.72
1992	2.34	65.12	8.67
1996	2.39	69.40	8.50
2000	2.35	69.30	8.55

For more Olympic results, see **www.ex.ac.uk/cimt/data/olympics/olymindx.htm**.

A.2 TV Advertising Spending

The following data is a sample taken from a 1983 study by a New York ad-testing company. It is based on interviews with 20 000 adults who were asked to name the most outstanding TV commercial they had seen that week. **Spend** lists the annual advertising spending for the company in 1983. **Milimp** is an index that measures millions of retained impressions per week.

Firm	Spend ($)	Milimp
Miller Lite	50.1	32.10
Pepsi	74.1	99.60
Crest	32.4	71.10
Federal Express	22.9	21.90
Burger King	82.4	60.80
Coca-Cola	40.1	78.60
McDonald's	185.9	92.40
MCI	26.9	50.70

Firm	Spend ($)	Milimp
Levi's	27.0	40.80
Bud Lite	45.6	10.40
ATT/Bell	154.9	88.90
Calvin Klein	5.0	12.00
Wendy's	49.7	29.20
Polaroid	26.9	38.00
Ford	166.2	40.10
Meow Mix	7.6	12.30

A.3 Billionaires

Fortune magazine annually publishes a list of billionaires. The 1992 list included 231 individuals or families. Their wealth (in billions of dollars), age (in years), and geographic location (**A**sia, **E**urope, **M**iddle East, **U**nited States, or **O**ther) are reported. (* means not available.)

Wealth	Age	Region	Wealth	Age	Region	Wealth	Age	Region
37.0	50	M	4.0	49	A	2.6	62	O
24.0	88	U	3.9	64	A	2.6	66	U
14.0	64	A	3.9	83	A	2.6	75	U
13.0	63	U	3.8	41	A	2.5	74	E
13.0	66	U	3.8	78	A	2.5	73	E
11.7	72	E	3.6	80	A	2.5	84	M
10.0	71	M	3.5	68	O	2.5	49	A
8.2	77	U	3.4	67	U	2.4	60	U
8.1	68	U	3.4	71	O	2.4	71	O
7.2	66	E	3.4	54	A	2.4	76	A
7.0	69	M	3.3	62	E	2.4	67	E
6.2	36	O	3.3	69	A	2.3	54	A
5.9	49	U	3.3	58	U	2.3	57	U
5.3	73	U	3.2	71	U	2.3	54	O
5.2	52	E	3.2	55	O	2.3	64	O
5.0	77	M	3.0	66	E	2.2	85	E
5.0	73	M	3.0	65	E	2.2	45	A
4.9	62	A	3.0	50	U	2.2	39	O
4.8	54	U	3.0	64	E	2.2	54	E
4.7	63	U	3.0	57	A	2.1	68	U
4.7	23	U	3.0	86	M	2.1	85	U
4.6	70	O	3.0	71	E	2.0	70	M
4.6	59	E	3.0	68	E	2.0	102	M
4.5	96	E	3.0	68	E	2.0	38	U
4.5	84	O	3.0	54	U	2.0	73	A
4.5	40	E	2.8	68	A	2.0	91	E
4.3	60	U	2.8	76	E	2.0	82	U
4.0	77	E	2.8	52	E	2.0	74	M
4.0	68	E	2.8	73	O	2.0	81	M
4.0	83	E	2.8	46	O	2.0	*	U
4.0	68	A	2.7	69	U	2.0	62	E
4.0	40	E	2.7	63	E	2.0	62	U
4.0	62	M	2.6	42	E	2.0	67	U
4.0	69	E	2.6	67	E	2.0	80	O

Wealth	Age	Region
2.0	68	M
2.0	80	U
2.0	*	U
2.0	60	E
2.0	74	O
1.9	48	U
1.9	60	E
1.9	43	E
1.9	64	O
1.9	67	U
1.8	62	A
1.8	90	E
1.8	66	U
1.8	68	A
1.8	60	A
1.8	53	A
1.8	47	E
1.8	86	U
1.8	67	A
1.7	54	U
1.7	77	E
1.7	61	U
1.7	83	E
1.7	61	U
1.7	58	U
1.7	64	U
1.7	53	A
1.7	67	A
1.6	57	E
1.6	62	A
1.6	*	E
1.6	64	O
1.6	69	A
1.6	71	E
1.6	54	U
1.6	78	A
1.5	45	U
1.5	69	U
1.5	59	U
1.5	*	A
1.5	82	O
1.5	68	E
1.5	41	E
1.5	60	E
1.5	64	E
1.5	44	E
1.5	7	E
1.5	72	E
1.5	56	E
1.5	60	E
1.4	61	E
1.4	79	O
1.4	42	O
1.4	63	E
1.4	49	E
1.4	56	E
1.4	67	U
1.4	75	E
1.4	43	M
1.4	61	U
1.4	54	O
1.4	47	E
1.4	64	U
1.4	52	A
1.4	73	A
1.3	83	U
1.3	64	E
1.3	71	O
1.3	71	E
1.3	61	M
1.3	83	E
1.3	43	E
1.3	47	U
1.3	79	E
1.3	53	E
1.3	73	U
1.3	72	U
1.3	72	U
1.3	59	A
1.3	77	E
1.3	68	E
1.3	42	E
1.3	61	U
1.2	69	A
1.2	82	O
1.2	*	E
1.2	56	U
1.2	42	M
1.2	63	U
1.2	75	U
1.2	*	E
1.2	59	A
1.2	70	E
1.2	46	M
1.2	68	U
1.2	68	A
1.2	69	A
1.2	68	O
1.2	64	A
1.1	53	E
1.1	79	E
1.1	49	E
1.1	47	U
1.1	75	U
1.1	76	M
1.1	66	U
1.1	85	U
1.1	66	O
1.1	70	U
1.1	58	E
1.1	72	E
1.1	52	M
1.0	52	O
1.0	79	E
1.0	69	A
1.0	52	M
1.0	75	E
1.0	62	E
1.0	65	M
1.0	63	U
1.0	87	E
1.0	61	U
1.0	58	O
1.0	60	E
1.0	67	O
1.0	80	E
1.0	63	U
1.0	9	M
1.0	59	E

A.4 Singer Heights

Heights (in centimetres) of singers in the New York Choral Society in 1979 are recorded below.

Soprano	Alto	Tenor	Bass
163	165	175	183
158	157	183	178
168	173	180	183
165	170	168	175
152	170	193	185
155	160	188	180
165	170	180	183
168	168	168	173
165	160	173	173
160	183	170	180
170	157	178	168
165	155	165	173
158	168	183	180
165	163	178	185
173	152	173	185
165	155	185	178
160	168	168	173
165	168	173	178
158	168	170	191

Soprano	Alto	Tenor	Bass
165	157	163	173
168	178		180
158	165		178
165	163		188
160	160		178
165	165		191
168	175		191
165	155		175
157	168		183
165	165		180
168	155		178
165	160		180
155	163		173
165	170		178
168	168		191
165	173		183
157			168
			183
			178
			175

Source: **http://lib.stat.cmu.edu/DASL/Datafiles/Singers.html**

A.5 Crawling Age

The table that follows displays data from a study of the age at which infants learn to crawl. Researchers were interested in whether or not heavy winter clothing inhibited an infant's learning to crawl. The table contains the number of infants born during each month (n), the mean crawling age (in weeks) and standard deviation (SD), and the average monthly temperature (in degrees Celsius) six months after the birth month.

Birth Month	*n*	Crawling Age	SD	Temp
January	32	29.84	7.08	22
February	36	30.52	6.96	22
March	23	29.70	8.33	17
April	26	31.84	6.21	11
May	27	28.58	8.07	14
June	29	31.44	8.10	0
July	21	33.64	6.91	−1
August	45	32.82	7.61	0
September	38	33.83	6.93	3
October	44	33.35	7.29	9
November	49	33.38	7.42	14
December	44	32.32	5.71	19

Source: **http://lib.stat.cmu.edu/DASL/Datafiles/Crawling.html**

A.6 Census Data

Listed below is a selection of census data collected from the colonies in New France, later to become Lower Canada, in 1665, 1765, and 1860.

1665 Census of New France

Region	Families	Population	Males	Females	Married		Widowed & Unmarried	
					Males	Females	Males	Females
Beauport	29	185	117	68	28	28	89	40
Beaupré	89	533	315	218	84	83	231	135
Côte St. Jean, Côte St. François, Côte St. Michel	27	153	99	54	24	26	75	28
Île d'Orléans	96	452	291	161	93	84	198	77
Lauzon	3	13	9	4	3	3	6	1
Montréal	107	625	384	241	105	105	279	136
Notre-Dame des Anges, Rivière St. Charles	24	112	67	45	28	24	39	21
Québec	71	547	360	187	65	53	295	134
Sillery	23	140	93	47	23	21	70	26
Trois-Rivières	69	455	299	156	75	64	224	92

1765 Census of New France

Region	Families	Population	Males	Females	Married		Widowed & Unmarried	
					Males	Females	Males	Females
Beauport	167	891	451	440	167	165	284	275
Île d'Orléans–St. François	71	378	185	193	71	67	114	126
Île d'Orléans–St. Jean	91	524	264	260	91	90	173	170
Île d'Orléans–St. Pierre	88	471	225	246	85	88	140	158
Île d'Orléans–Ste. Famille	83	457	244	213	77	83	167	130
Rivière St. Charles	41	297	146	151	36	41	110	110
St. Charles	204	1073	546	527	204	198	342	329
St. Jean d'Eschaillons	32	183	93	90	32	32	61	58
St. Jean Port	73	393	191	202	70	73	121	129
Trois-Rivières	126	644	309	335	130	153	179	182

1860 Census of Lower Canada

Region	Families	Population	Males	Females	Married		Widowed & Unmarried	
					Males	Females	Males	Females
Beauharnois	2 354	15 697	7 887	7 810	2 352	2 350	5 535	5 460
Chicoutimi	1 492	10 317	5 625	4 692	1 734	1 516	3 891	3 176
Drummond	1 881	12 280	6 342	5 888	2 076	1 878	4 316	4 010
Gaspé, et Île de la Madeleine	2 246	13 988	7 362	6 626	2 337	2 234	5 025	4 392
Hochelaga	2 769	16 415	8 290	8 125	2 632	2 442	5 658	5 683
Islet	2 025	12 300	6 221	6 079	1 913	1 897	4 308	4 182
Jacques Cartier	1 718	11 215	5 741	5 474	1 612	1 556	4 129	3 918
Joliette	3 246	21 100	10 723	10 377	3 486	3 076	7 237	7 301
Kamouraska	2 835	21 055	10 544	10 511	3 090	3 121	7 454	7 390
Laval	1 688	10 501	5 263	5 238	1 518	1 462	3 745	3 776
Lotbinière	2 712	20 004	10 169	9 835	2 896	2 895	7 271	6 940
Lévis	3 235	22 065	11 225	10 840	3 237	3 213	7 988	7 627
Montcalm	2 307	14 754	7 527	7 227	2 132	2 030	5 395	5 197
Montréal	17 570	90 227	43 758	46 469	13 388	12 985	30 370	33 484
Québec City	16 077	49 057	23 691	25 366	7 209	7 169	16 482	18 197
Trois-Rivières	991	6 053	2 932	3 121	882	920	2 050	2 201

A.7 Men's Track Times

These data are the national record times for eight races for men before the 1984 Olympics Games. The record times are listed for 55 countries (in seconds for 100 m, 200 m, and 400 m, and in minutes for the rest).

Country	100 m	200 m	400 m	800 m	1500 m	5 K	10 K	Marathon
Argentina	10.39	20.81	46.84	1.81	3.70	14.04	29.36	137.72
Australia	10.31	20.06	44.84	1.74	3.57	13.28	27.66	128.30
Austria	10.44	20.81	46.82	1.79	3.60	13.26	27.72	135.90
Belgium	10.34	20.68	45.04	1.73	3.60	13.22	27.45	129.95
Bermuda	10.28	20.58	45.91	1.80	3.75	14.68	30.55	146.62
Brazil	10.22	20.43	45.21	1.73	3.66	13.62	28.62	133.13
Burma	10.64	21.52	48.30	1.80	3.85	14.45	30.28	139.95
Canada	10.17	20.22	45.68	1.76	3.63	13.55	28.09	130.15
Chile	10.34	20.80	46.20	1.79	3.71	13.61	29.30	134.03
China	10.51	21.04	47.30	1.81	3.73	13.90	29.13	133.53
Colombia	10.43	21.05	46.10	1.82	3.74	13.49	27.88	131.35
Cook Islands	12.18	23.20	52.94	2.02	4.24	16.70	35.38	164.70
Costa Rica	10.94	21.90	48.66	1.87	3.84	14.03	28.81	136.58
Czechoslovakia	10.35	20.65	45.64	1.76	3.58	13.42	28.19	134.32
Denmark	10.56	20.52	45.89	1.78	3.61	13.50	28.11	130.78
Dominican Republic	10.14	20.65	46.80	1.82	3.82	14.91	31.45	154.12
Finland	10.43	20.69	45.49	1.74	3.61	13.27	27.52	130.87
France	10.11	20.38	45.28	1.73	3.57	13.34	27.97	132.30
Germany (East)	10.12	20.33	44.87	1.73	3.56	13.17	27.42	129.92
Germany (West)	10.16	20.37	44.50	1.73	3.53	13.21	27.61	132.23
Greece	10.22	20.71	46.56	1.78	3.64	14.59	28.45	134.60
Guatemala	10.98	21.82	48.40	1.89	3.80	14.16	30.11	139.33
Hungary	10.26	20.62	46.02	1.77	3.62	13.49	28.44	132.58
India	10.60	21.42	45.73	1.76	3.73	13.77	28.81	131.98
Indonesia	10.59	21.49	47.80	1.84	3.92	14.73	30.79	148.83
Ireland	10.61	20.96	46.30	1.79	3.56	13.32	27.81	132.35
Israel	10.71	21.00	47.80	1.77	3.72	13.66	28.93	137.55
Italy	10.01	19.72	45.26	1.73	3.60	13.23	27.52	131.08
Japan	10.34	20.81	45.86	1.79	3.64	13.41	27.72	128.63
Kenya	10.46	20.66	44.92	1.73	3.55	13.10	27.38	129.75
Korea (North)	10.91	21.94	47.30	1.85	3.77	14.13	29.67	130.87

Country	100 m	200 m	400 m	800 m	1500 m	5 K	10 K	Marathon
Korea (South)	10.34	20.89	46.90	1.79	3.77	13.96	29.23	136.25
Luxembourg	10.35	20.77	47.40	1.82	3.67	13.64	29.08	141.27
Malaysia	10.40	20.92	46.30	1.82	3.80	14.64	31.01	154.10
Mauritius	11.19	22.45	47.70	1.88	3.83	15.06	31.77	152.23
Mexico	10.42	21.30	46.10	1.80	3.65	13.46	27.95	129.20
Netherlands	10.52	20.95	45.10	1.74	3.62	13.36	27.61	129.02
New Zealand	10.51	20.88	46.10	1.74	3.54	13.21	27.70	128.98
Norway	10.55	21.16	46.71	1.76	3.62	13.34	27.69	131.48
Papua New Guinea	10.96	21.78	47.90	1.90	4.01	14.72	31.36	148.22
Philippines	10.78	21.64	46.24	1.81	3.83	14.74	30.64	145.27
Poland	10.16	20.24	45.36	1.76	3.60	13.29	27.89	131.58
Portugal	10.53	21.17	46.70	1.79	3.62	13.13	27.38	128.65
Romania	10.41	20.98	45.87	1.76	3.64	13.25	27.67	132.50
Singapore	10.38	21.28	47.40	1.88	3.89	15.11	31.32	157.77
Spain	10.42	20.77	45.98	1.76	3.55	13.31	27.73	131.57
Sweden	10.25	20.61	45.63	1.77	3.61	13.29	27.94	130.63
Switzerland	10.37	20.46	45.78	1.78	3.55	13.22	27.91	131.20
Taiwan	10.59	21.29	46.80	1.79	3.77	14.07	30.07	139.27
Thailand	10.39	21.09	47.91	1.83	3.84	15.23	32.56	149.90
Turkey	10.71	21.43	47.60	1.79	3.67	13.56	28.58	131.50
United Kingdom	10.11	20.21	44.93	1.70	3.51	13.01	27.51	129.13
USA	9.93	19.75	43.86	1.73	3.53	13.20	27.43	128.22
USSR	10.07	20.00	44.60	1.75	3.59	13.20	27.53	130.55
Western Samoa	10.82	21.86	49.00	2.02	4.24	16.28	34.71	161.83

Source: **http://lib.stat.cmu.edu/DASL/Datafiles/Men'sTrack.html**

A.8 Smoking and Mortality

Government statisticians in England conducted a study of the relationship between smoking and lung cancer. The smoking index is the ratio of the average number of cigarettes smoked per day by men in the particular occupational group to the average number of cigarettes smoked per day by all men. The mortality index is the ratio of the rate of deaths from lung cancer among men in the particular occupational group to the rate of deaths from lung cancer among all men.

Variable Names:

Occupational_Group: Occupational Group
Smoking: Smoking index (100 = average)
Mortality: Lung cancer mortality index (100 = average)

Occupational_Group	Smoking	Mortality
Farmers, foresters, and fishers	77	84
Miners and quarry workers	137	116
Gas, coke, and chemical makers	117	123
Glass and ceramics makers	94	128
Furnace, forge, foundry, and rolling-mill workers	116	155
Electrical and electronics workers	102	101
Engineering and allied trades	111	118
Professionals, technical workers, and artists	66	51
Leather workers	88	104
Textile workers	102	88
Clothing workers	91	104
Food, drink, and tobacco workers	104	129
Woodworkers	93	113

Occupational_Group	Smoking	Mortality
Drivers of stationary engines, cranes, etc.	125	113
Makers of other products	112	96
Service, sport, and recreation workers	100	120
Painters and decorators	110	139
Transport and communications workers	115	128
Labourers not included elsewhere	133	146
Paper and printing workers	107	86
Warehouse workers, storekeepers, packers, and bottlers	105	115
Clerical workers	87	79
Sales workers	91	85
Construction workers	113	144
Administrators and managers	76	60

Source: **http://lib.stat.cmu.edu/DASL/Datafiles/SmokingandCancer.html**

A.9 Triathlon Results

Listed below are the results of the 2001 Subaru Triathlon Series Guelph Lake II Triathlon held on September 1, 2001. The age categories are **A**—Elite Male; **C**—Male 14–19; **D**—Male 20–24; **E**—Male 25–29; **F**—Male 30–34; **G**—Male 35–39; **H**—Male 40–44. **Plc/Total** stands for the athlete's position out of the number of competitors in the age category. **Ovr** stands for the athlete's place over all.

				750 m Swim			30 km Bike				7 km Run				
Pos	Time	Plc/Total	Category	Cat	Ovr	Time	/100 m	Cat	Ovr	Time	km/h	Cat	Ovr	Time	/km
1	1:22:30	1/7	A	1	1	9:29	1:16	2	5	49:08:00	36.6	1	4	23:54:00	3:25
2	1:22:57	1/93	F	1	13	10:40	1:26	1	1	48:28:00	37.2	2	3	23:50:00	3:25
3	1:23:03	2/7	A	5	10	10:32	1:25	1	2	48:30:00	37.1	2	5	24:02:00	3:26
4	1:25:13	3/7	A	4	4	10:11	1:22	3	6	49:27:00	36.4	4	17	25:35:00	3:40
5	1:25:22	2/93	F	3	23	11:20	1:31	5	12	50:19:00	35.8	1	2	23:44:00	3:24
6	1:26:37	4/7	A	2	2	9:47	1:19	6	25	52:05:00	34.6	3	6	24:46:00	3:33
7	1:27:01	1/101	H	2	27	11:29	1:32	1	8	49:31:00	36.4	5	25	26:03:00	3:44
8	1:27:11	3/93	F	2	20	11:17	1:31	2	3	48:33:00	37.1	10	52	27:22:00	3:55
9	1:27:14	4/93	F	8	66	12:29	1:40	3	9	49:36:00	36.3	3	10	25:10:00	3:36
10	1:27:32	5/7	A	3	3	10:08	1:22	5	21	51:31:00	35	5	20	25:54:00	3:42
11	1:27:33	1/86	G	2	21	11:18	1:31	1	4	48:36:00	37	9	65	27:40:00	3:58
12	1:27:36	5/93	F	5	41	11:52	1:35	4	10	49:36:00	36.3	7	28	26:09:00	3:45
13	1:27:42	2/101	H	1	19	11:17	1:31	4	19	51:24:00	35	1	8	25:02:00	3:35
14	1:28:22	1/57	E	1	12	10:39	1:26	1	27	52:17:00	34.4	1	12	25:26:00	3:38
15	1:28:33	6/7	A	6	17	11:14	1:30	4	7	49:30:00	36.4	6	70	27:50:00	3:59
16	1:29:04	1/18	C	8	53	12:10	1:38	2	23	51:34:00	34.9	2	11	25:21:00	3:38
17	1:29:11	2/18	C1	2	18	11:16	1:31	4	64	55:07:00	32.7	1	1	22:49:00	3:16
18	1:29:13	3/101	H	9	77	12:40	1:42	2	14	50:34:00	35.6	4	23	26:00:00	3:43