

Problem 1:

- a) Augusta Ada King was a mathematician, credited with the invention of the first computer program.
- b) The SWAC (Standards Western Automatic Computer), completed in 1950, became the World's fastest computer. It was built with 37 CRTs (memory units), which operated in parallel. Its chief designer was Harry Huskey.
- c) The SWAC was primarily used by the National Bureau of Standards Institute of Numerical Analysis at UCLA.
- d) The base model of the TRS-80 had, amongst others, the following attributes:
 - a. DOS, NewDos/80 Operating System
 - b. Came with QWERTY keyboard and a monitor
 - c. Small, easy to use
 - d. Starting price of \$600 (\$2,3400 2014-dollars)
- e) Mosaic was programmed and developed primarily by Marc Andreessen and Eric Bina. It was maintained by the National Center for Supercomputing Applications (NCSA).
- f) Amongst the biggest contributions of PARC were:
 - a. LCD technology
 - b. Optical disks
 - c. Laser printing
 - d. GUIs development
 - e. Ethernet
- g) Contributors to Simon's failure include:
 - a. High cost
 - b. Low memory & storage
 - c. Poor aesthetics
- h)

Problem 2:

depends on own computer

Problem 3:

- a) Describe your own algorithm. What language, what it did, etc.
- b)
- c) Advantages of 64 bit vs 34 bit:
 - a. Allows processor to handle large memory areas simultaneously
 - b. Reduces sluggish operations due to larger amount of available memory

Problem 4:

Example of conditional formatting and Categorization by weight:

	A	B	C	D	E	F	G	H	I	J	K
1		Model	Country	Type	Weight	Turning Circle	Displacement	Horsepower	Gas Tank Size		Category
2		Acura Integra	Japan	Small	2700	37	112	130	13.2		Class B
3		Acura Legend V6	Japan	Medium	3265	42	163	160	18		Class D
4		Audi 100	Other	Medium	2935	39	141	130	21.1		Class C
5		Audi 80	Other	Compact	2670	35	121	108	15.9		Class B
6		Audi 90	Other	Compact	2790	35	141	130	15.9		Class B
7		BMW 325i	Other	Compact	2895	35	152	168	16.4		Class C
8		BMW 535i	Other	Medium	3640	39	209	208	21.1		Class D
9		Buick Century	USA	Medium	2880	41	151	110	15.7		Class C
10		Buick Electra V6	USA	Large	3350	43	231	165	18		Class D
11		Buick Le Sabre V6	USA	Large	3325	42	231	165	18		Class D
12		Buick Riviera V6	USA	Medium	3465	41	231	165	18.8		Class D
13		Buick Skylark	USA	Compact	2640	39	151	110	13.6		Class B
14		Cadillac Brougham V8	USA	Large	4285	44	307	140	25		Class D
15		Cadillac De Ville V8	USA	Large	3545	43	273	180	18		Class D
16		Cadillac Eldorado V8	USA	Medium	3480	42	273	180	18.8		Class D
17		Chevrolet Astro V6	USA	Large	4025	42	262	150	27		Class D
18		Chevrolet Beretta	USA	Compact	2655	38	133	95	15.6		Class B
19		Chevrolet Camaro V6	USA	Sporty	3110	41	191	140	15.5		Class C
20		Chevrolet Camaro V8	USA	Sporty	3320	41	305	170	15.5		Class D
21		Chevrolet Caprice V8	USA	Large	3855	42	305	170	25		Class D
22		Chevrolet Cavalier	USA	Compact	2485	38	133	95	13.6		Class B
23		Chevrolet Corvette V8	USA	Sporty	3280	42	350	250	20		Class D
24		Chevrolet Lumina	USA	Medium	3195	42	151	110	17.1		Class C
25		Chevrolet Lumina APV V6	USA	Large	3630	42	191	120	20		Class D
26		Chrysler Imperial V6	USA	Medium	3570	43	202	150	16		Class D
27		Chrysler Le Baron Coupe	USA	Medium	2975	39	153	150	14		Class C

Count of vehicles by class:

Count			
Class A	Class B	Class C	Class D
23	24	32	37

Example of Category formula:

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=IF(E3<2400,"Class A",IF(AND(E3>2401,E3<=2800),"Class B",IF(AND(E3>2801,E3<=3200),"Class C",IF(E3>3201,"Class D",0))))
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Problem 5:

Example of passenger count and Airport Type:

	C	D	E	F	G	H
1	Name	State	Large Air Carrier Passengers	Commuter Air Carrier Passengers	Total # of passengers	Type of Airport
2	MEADOW LAKE	CO	0	0	0	No Hub
3	PERRY-WARSAW	NY	0	0	0	No Hub
4	GRAGG-WADE FIELD	AL	0	0	0	No Hub
5	CAPITOL	WI	0	0	0	No Hub
6	COLUMBIANA COUNTY	OH	0	0	0	No Hub
7	HAWLEY MUNI	MN	0	0	0	No Hub
8	GRIFFITH-MERRILLVILLE	IN	0	0	0	No Hub
2651	YOUNGSTOWN-WARREN REGIONAL	OH	8073	102	8175	No Hub
2652	YUMA MCAS/YUMA INTL	AZ	1238	61403	62641	No Hub
2653	CLEAR	AK	0	0	0	No Hub
2654	BIRCH CREEK	AK	0	0	0	No Hub
2655	ELKIN MUNI	NC	0	0	0	No Hub
2656	SCHUYLKILL COUNTY /JOE ZERBEY/	PA	0	0	0	No Hub
2657	ZEPHYRHILLS MUNI	FL	0	0	0	No Hub
2658	BLACK ROCK	NM	0	0	0	No Hub
2659	ZANESVILLE MUNI	OH	0	0	0	No Hub
2660	Sum of Total # of passengers				664254859	
2661						

Airport count by class:

Type of Airport	# of Airports
Non-Hub	2520
Small Hub	69
Medium Hub	38
Large Hub	31
Total	2658

Example of airport type classification formula:

<code>=IF(G2>(0.01*\$G\$2660),"Large Hub",IF(AND(G2<0.01*\$G\$2660,G2>=0.0025*\$G\$2660),"Medium Hub",IF(AND(G2<0.0025*\$G\$2660,G2>=0.0005*\$G\$2660),"Small Hub", "No Hub")))</code>
