

Name: \_\_\_\_\_  
 Value: 3

Complete the following table concerning the smallest and largest integers that can be represented in a 6-bit configuration given the different storage modes.

Storage Mode	Decimal (Base 10)		Binary (Base 2)	
	Smallest	Largest	Smallest	Largest
Unsigned	#1	#2	#3	#4
Sign Magnitude	#5	#6	#7	#8
1's Complement	#9	#10	#11	#12
2's Complement	#13	#14	#15	#16

Complete the following table. For each of the internal forms shown in the first column, provide the decimal (base 10) equivalent assuming numbers are stored in the various storage modes. Assume an 8-bit word size.

Internal Representation	Storage Mode			
	Unsigned	Sign Magnitude	1's Complement	2's Complement
0101 1001	#17	#18	#19	#20
1010 0110	#21	#22	#23	#24
0000 0000	#25	#26	#27	#28
1111 1111	#29	#30	#31	#32
0111 1111	#33	#34	#35	#36
1000 0000	#37	#38	#39	#40

Complete the following table. For each of the decimal numbers shown in the first column, provide the internal representation assuming numbers are stored in the various storage modes. Assume an 8-bit word size.

Decimal Number	Storage Mode			
	Unsigned	Sign Magnitude	1's Complement	2's Complement
-129	#41	#42	#43	#44
-128	#45	#46	#47	#48
-127	#49	#50	#51	#52
-62	#53	#54	#55	#56
-13	#57	#58	#59	#60
-1	#61	#62	#63	#64
-0	#65	#66	#67	#68
0	#69	#70	#71	#72
1	#73	#74	#75	#76
13	#77	#78	#79	#80
62	#81	#82	#83	#84
127	#85	#86	#87	#88
128	#89	#90	#91	#92
255	#93	#94	#95	#96
256	#97	#98	#99	#100