Suppose you have a hashtable defined to have keys as integers and values as Strings. The hash function of this hashtable is implemented as a polynomial accumulator where the accumulation is defined to be:

the ones digit$*3^0$
the tens digit$*3^1$
the hundreds digit $* 3^2$
the thousands digit $* 3^3$
etc

So, if the number is 1234, then hash value the calculation is:
4*1 + (3*3) + (2*(3*3)) + (1*(3*3*3))=
4+9+18+27=58

Further suppose the hashtable uses quadratic probing and is of size 11.

Show the contents of this hashtable after executing all of following operations (you need only show the final contents of the hashtable):

Add <1, "a">// the first item is the key, the second the value
Add <11, "b">
Add <21, "c">
Add <32, "d">
Add <25, "e">
Add <40, "f">
Del <1>
Add<524, "g">
Add<1, "h">

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Item	Polynomial	mod 11
<1,A>	1	1
<11,b>	1+3*1=4	4
<21,c>	1+3*2=7	7
<32,d>	2+3*3=11	0
<25,e>	5+2*3=11	0
<40,f>	0+4*3=12	1
<524,g>	4+2*3+5*3*3=4+6+45=55	0
<1,h>	1	1

Location	content
0	<32,d>
1	~~<1,a>~~ Delete 1 (tombstone it) <524, g> wants to go in 0, occupied so try 0+1=1
2	<40,f> (wants to go in 1, but occupied so try 1+1=2)
3	
4	<11,b>
5	<1,h> wants to go in 1, but occupied so try 1+1=2, occupied so try 1+4=5
6	
7	<21,c>
8	
9	<25,e> (wants to go in 0, occupied so try 0+1=1, occupied so try 0+4=4, occupied so try 0+9=9)
10	