Mass spectrometry analysis gives a series of peak height readings for various ion masses. For each peak, the height h_j is contributed to by the various constituents. These make different contributions c_{ij} per unit concentration p_i so that the relation

$$h_j = \sum_{i=1}^{n} c_{ij} p_i$$

Table 2.2

Peak number	Component				
	CH_4	C_2H_4	C_2H_6	C_3H_6	C_3H_8
1	0.165	0.202	0.317	0.234	0.182
2	27.7	0.862	0.062	0.073	0.131
3		22.35	13.05	4.420	6.001
4			11.28	0	1.110
5				9.850	1.684
6					15.94

holds, with n being the number of components present. Carnahan (1964) gives the values shown in Table 2.2 for c_{ij}.

If a sample had measured peak heights of $h_] = 5.20$,$h_z = 61.7$,$h_3 = 149.2$,$h_4 = 79.4$,$h_5 = 89.3$, and $h_6 = 69.3$, calculate the values of p_i based on A and B below mentioned item for each component. The total of all the P_i values was 21.53.

A) By Gauss elimination
B) By Gauss Seidel iteration. Starting vector with all element 0 and then using relaxation factor plot relaxation factor vs iteration number . find Min. iteration number relevant to relaxation factor.