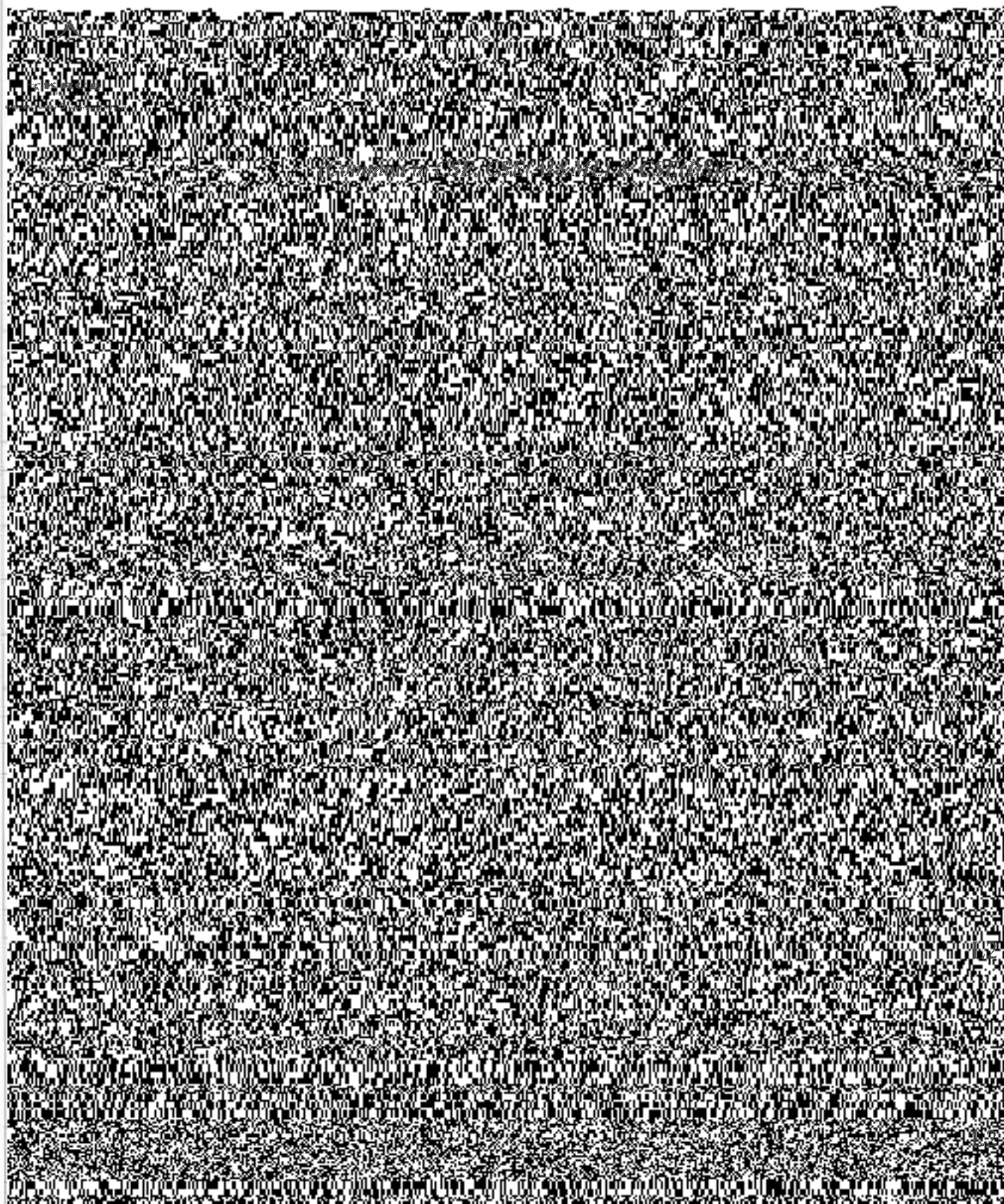
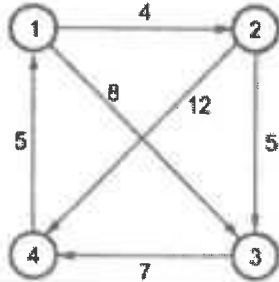




14	Briefly explain 8-queen problem using backtracking.	10M	2	L2
15	Find the feasible solutions and optimal solution for the following knapsack instance $n=7, m=15, (p_1, p_2, \dots, p_7) = (10, 5, 15, 7, 6, 18, 3)$ and $(w_1, w_2, \dots, w_7) = (2, 3, 5, 7, 1, 4, 1)$.	10M	3	L2
OR				
16	Discuss about job sequencing with dead lines with suitable examples.	10M	3	L2
17	A) Design an algorithm for All Pairs Shortest Path Algorithm. Mention its complexity. B) Calculate the shortest paths between all pairs of vertices using dynamic programming strategy for the following graph.	5M 5M	4	L2
				
OR				
18	A) Define Reliability Design Problem. B) Design a reliable three state system with three device types D1, D2 and D3. The costs are \$30, \$15 and \$20 respectively. The cost of system is to no more than \$105. The reliability if each device type is 0.9, 0.8 and 0.5 respectively.	3M 7M	4	L2
19	A) State 0/1 Knapsack problem and design an algorithm of LC Branch and Bound. B) Find the solution for the 0/1 knapsack instance of $n = 4, (p_1, p_2, p_3, p_4) = (10, 10, 12, 18), (w_1, w_2, w_3, w_4) = (2, 4, 6, 9)$ and $M = 15$.	5M 5M	5	L2
OR				
20	State and prove 3-satisfiability problem is NP-Complete.	10M	5	L2