1)**(The Reddy Mikks Company):**The Reddy Mix Company owns a small paint factory that produces both exterior and interior house paints for wholesale distribution. Two basic raw materials A and B are used to manufacture the paints. The maximum availability of A is 6 tons a day and that of B is 8 tons a day. The daily requirements of the raw materials per ton of interior and exterior paints are summerized in the following table:

	Tons of Raw Material per ton of Paint		Maximum Availability
	Exterior	Interior	
Raw Material A	1	2	6
Raw Material B	2	1	8

A market survey has established that the daily demand for interior paint can not exceed that of the exterior paint by more than 1 ton. The survey also shows that the maximum demand for interior paint is limited to 2 tons daily.

The whole sale price per ton is $3000 for exterior paint and $2000 for interior paint.

How much interior and exterior paints should the company produce daily to maximize the gross income.

Carryout the complete sensitivity analysis

- Sensitivity Problem-1: Which resource to change to improve the gross income or without chnaging the gross income?
- Sensitivity Problem-2: How to give priority?
- Sensitivity Problem-3: How much change in the objective function coefficients?

2)**(The advertisement Problem):**A company can advertise its products by using local radio and TV stations. Its budget limits the advertisement expenditure to $1000 a month. Each minute of radio advertisement costs $5 and that on TV costs $100. The company would like to use the radio at least twice as much as the TV. Past experience shows that each minute of TV advertisement will usually generate 25 times as much sales as each minute of radio advertisement. Determine the optimum allocation of the monthly budget to radio and TV advertisement.