**Nonlinear Programming Problem 58: Solution**

**Model:**

Parameters:

*: Cost of each product ,*

*: Market size of each customer segment , where j*

*: Price each customer segment j is willing to pay for product, where*

*, j*

Decisions:

: *Selling price for each product ,*

: Whether *customer segment* buys product *,*

*, j*

Calculated Parameters:

: *Surplus obtained for product , where*

*, j*

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Objective:

*Maximize Profit:*  (

Constraints:

1) A customer segment can buy max. of 1 product

(2) Purchase product only if surplus is non-negative

- M (1-

(3) Purchase highest utility

[M is a large number that helps to enforce logical constraint]

(4) Non-negative selling price

[May be redundant as we are maximizing profit]

(5) Binary decision

**Optimal Solution:**

The following is the solution obtained from Excel Solver:

A maximum revenue of 60,000$ can be attained by scheduling, choosing and pricing the products as shown below in the worksheet snippet.

