**Scenario01**

A local backery wants to determine how many batches of products should it produce to get the highest total profit, after subtracting any incurred setup costs.

It produces two products: **Classic Cookies** and **Gourmet Brownies**.

The owner needs to create a production plan for the next week.

**Profits:**

**Classic Cookies** has a profit of 5 dollars for each box

**Gourmet Brownies** has a profit of 7 dollars for each box

**Constraints:**

Each batch of Classic Cookies needs 2 hours of oven time. Each batch of Gourmet Brownies needs 3 hours of oven time.

The oven is available for a total of 100 hours per week.

Ingredient limits: The bakery has enough ingredients to make at most **40 batches of Classic Cookies** and **25 batches of Gourmet Brownies**.

**Setup Costs:** To start production for either item, there is a fixed cost.

The setup cost for any amount of Classic Cookies is 15 dollars.

The setup cost for any amount of Gourmet Brownies is 20 dollars.

**Minimum Batch Size:** To be efficient, if the bakery decides to produce a product, they must produce a minimum number of batches.

* + If any Classic Cookies are produced, they must produce at least 10 batches.
  + If any Gourmet Brownies are produced, they must produce at least 5 batches.