**Gift Basket Challenge**
2 hour limit
Send questions to Ryan
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**Introduction**

A packaging company is automating the packaging of gift baskets.

The gifts can come in one of five shapes: Square, Rectangle, Circle, Oval, and Triangle. They also have various weights from 50 grams to 250 grams in increments of 50g.

The packaging company receives a set of **7** random gifts from a gift company to arrange a basket. For example, the set may include:

150g Square, 250g Oval, 50g Rectangle, 100g Triangle, 50g Circle, 50g Circle, 200g Rectangle

The packaging company must assemble the best possible basket of **5** gifts based on a set of rules. See page 2 for a list of rules that make optimal baskets.

Additionally, the packaging company uses different sets of rules for different seasons. See page 3 for a list of rule sets.

**Challenge Requirements**

- Write a program that takes a list of 7 gifts as input
- The program output must indicate the the optimal set of 5 gifts to use for the basket (see page 2 for optimal basket rules)
- The program must allow you to indicate the season (see page 3 for rules sets by season)
- It is up to you to determine how data is input and output from this program
- Your work must be emailed back within 2 hours from receiving this challenge

**Evaluation**

Your program will be evaluated on the following criteria ordered by importance:

1. Development best practices
2. Correctness
3. Completeness

**Optimal Basket Rules**

A basket must always have 5 gifts. The following is a list of basket types ranked from most optimal to least optimal. When comparing two different baskets of the same type the one with the heaviest weight is considered better.

1: Perfect Variety:
**Example:** 50g Square, 100g Circle, 150g Rectangle, 200g Triangle, 250g Square
Five gifts all with different weights and shapes.

2: Weight Variety:
**Example:** 50g Square, 100g Square, 150g Square, 200g Square, 250g Square
Five gifts with different weights of the same shape.

3: Shape Variety:
**Example: 1**50g Square, 150g Circle, 150g Rectangle, 150g Triangle, 150g Square
Five gifts with different shapes of all the same weight.

4: Perfect Pairing:
**Example:** 50g Square, 50g Square, 200g Circle, 200g Circle, 200g Circle
Three gifts of one shape and two of another. Each with consistent weights.

5: Shape Pairing:
**Example:** 150g Square, 50g Square, 50g Circle, 200g Circle, 200g Circle
Three gifts of one shape and two of another but with different weights

6: Discount Basket:
**Example:** 150g Square, 50g Triangle, 50g Rectangle, 200g Circle, 200g Circle
A basket that doesn't fall into the above categories

**Rule Sets**

Rule sets determine which set of rules should be used to determine the optimal basket.

Spring
4: Perfect Pairing
5: Shape Pairing
6: Discount Basket

Summer
1: Perfect Variety
2: Weight Variety
3: Shape Variety
4: Perfect Pairing
5: Shape Pairing
6: Discount Basket

Autumn
1: Perfect Variety
2: Weight Variety
3: Shape Variety
6: Discount Basket

Winter
1: Perfect Variety
4: Perfect Pairing
6: Discount Basket