**Discounts on apparel**

This shopping season you are having fun at the Mall. The Mall owner, himself, is quite stressed out having to manage the influx of customers.

He is struggling to calculate the discounts that he has on his clothing line. You decide to help him out by building a system that calculates the discounts on all the applicable items a customer has bought.

There are several categories of products. In fact, categories have subcategories which themselves can have subcategories. Below is a diagram.

Casuals is a subcategory of Trousers, which by itself is a subcategory of Men's wear. Some categories have discounts.

            Men's wear                 Women's wear (50% off)

            |- Shirts                          |- Dresses

            |- Trousers                    |- Footwear

            |- Casuals (30% off)

            |- Jeans   (20% off)

Each product you have belongs to a brand which by themselves are running discounts. Below is a table that lists them:

Brands Discounts:

Wrangler             10%

Arrow                   20%

Vero Moda        60%

UCB                       None

Adidas                  5%

Provogue            20%

This way, a product can have three types of discounts applicable:

1. Discount on the brand

2. Discount on the category

3. Discount on the ancestor category (e.g. Footwear doesn't have a discount, but it's parent category Women's wear has 50% off). It is worth noting, that it is an ancestor: not just a direct parent, anyone in the lineage.

The discount that is applied is the greatest of the above three. For example, if the customer buys a Jeans of Wrangler Brand, the discounts are:

1. Discount on brand: 10%

2. Discount on category (Jeans): 20%

3. Discount on parents (Trousers, Men's wear): None

So, the discount that is applied 20%.

Inventory (the list of items that shop has):

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Id | Brand            | Category          | Price   | Discounted Price           |

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1  | Arrow            | Shirts                 | 800      | 640                                      |

2  | Vero Moda | Dresses             | 1400  | 560                                      |

3  | Provogue     | Footwear         | 1800   | 900                                      |

4  | Wrangler      | Jeans                 | 2200  | 1760                                   |

5  | UCB                | Shirts                 | 1500  | 1500                                   |

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List of products are as follows:

1, Arrow,Shirts,800

2, Vero Moda,Dresses,1400

3, Provogue,Footwear,1800

4, Wrangler,Jeans,2200

5, UCB,Shirts,1500

**Sample Input**

The list of items that the customers purchased is as follows:

1,2,3,4

1,5

**Expected output**

Output of the program:

3860

2140