**Discounts on apparel**

1. 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.
2. 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.

1. There are several categories of products. In fact, categories have subcategories which themselves can have subcategories. Below is a diagram.
2. 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)

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

Brands Discounts:

Wrangler 10%

Arrow  20%

Vero Moda 60%

UCB None

Adidas 5%

Provogue 20%

1. 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%.

1. 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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You will be given the above table (without discounted price) in CSV form as standard input. This is the shop inventory.

1. You'll also get the customer options as comma separated Id's after a newline. In the example below, 1,2,3,4 are the customer choices.

Sample Input:

5

1, Arrow,Shirts,800

2, Vero Moda,Dresses,1400

3, Provogue,Footwear,1800

4, Wrangler,Jeans,2200

5, UCB,Shirts,1500

2

1,2,3,4

1,5

Expected output:

3860

2140