|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | high quality | | | low quality | | |
|
|
| buy, high price |  |  | 3 |  |  | 2 |
|  | 8 |  |  | 4 |  |
| 10 |  |  | 2 |  |  |
| buy, low price |  |  | 3 |  |  | 5 |
|  | 5 |  |  | 3 |  |
| 17 |  |  | 5 |  |  |
| not buy, high price |  |  | -3 |  |  | -1 |
|  | -2 |  |  | -1 |  |
| -2 |  |  | 1 |  |  |
| not buy, low price |  |  | -3 |  |  | -1 |
|  | -1 |  |  | 0 |  |
| -6 |  |  | 0 |  |  |

## Explanation

**Shopping Agent**

* The pay off values (and the utilities) for buying a low quality item increased because now they have the alternative to return the product.
* The pay off values (and the utilities) for not buying a low quality item decreased because it is now less risky to buy a product.

**Manufacturing Agent**

* The pay off values (and the utilities) for producing a high quality product remained the same.
* The pay off values (and the utilities) for producing a low quality product decreased because if the Shopping Agent buys a product, then there is the chance that they will return the product.

**Pricing Agent**

* The pay off values (and the utilities) for selling high or low remained relatively the same, but they both decreased in the case that the product is a low quality product, because they also loose from a possible return of a product.

## Nash equilibrium

|  |  |
| --- | --- |
| **cases** | **is equilibrium** |
| buy, high price, high quality | true |
| buy, high price, low quality | false |
| buy, low price, high quality | false |
| buy, low price, low quality | false |
| not buy, high price, high quality | false |
| not buy, high price, low quality | false |
| not buy, low price, high quality | false |
| not buy, low price, low quality | false |

* (buy, high price) → high quality  
  (buy, high quality) → high price  
  (high price, high quality) → buy
* (buy, high price) → high quality  
  **NO**
* (buy, low price) → low quality  
  (buy, low quality) → high price  
  **NO**
* (not buy, high price) → low quality  
  (not buy, low quality) → low price  
  **NO**
* (not buy, low price) → low quality  
  (not buy, low quality) → low price  
  (low price, low quality) → buy  
  **NO**