Tracking Online Auctions

Introduction

Your aunt is impressed with your programs and would like you to develop an application that tracks the status of an online auction. Bidding begins at $1 and proceeds in increments of at least $1. If a bid arrives that is less than the current bid, it is discarded. If a bid arrives that is more than the current bid, but less than the maximum bid by the current high bidder, then the current bid for the current high bidder is increased to match it and the new bid is discarded. If a bid arrives that is more than the maximum bid for the current high bidder, then the new bidder becomes the current high bidder, at a bid of one more than the previous high bidder's maximum. When the auction is over (the end of the input is reached), a history of the actual bids (the ones not discarded), from high bid to low bid, should be displayed. For example:

New Bid	Result	High Bidder	High Bid	Maximum Bid
7 John	New high bidder	John	1	7
5 Hank	High bid increased	John	5	7
10 Jill	New high bidder	Jill	8	10
8 Thad	No change	Jill	8	10
15 Joey	New high bidder	Joey	11	15

The bid history for this auction would be

```
Joey        11
Jill        8
John        5
John        1
```

Problem Statement

Design and implement an application **TrackingOnlineAuction.java** to track the status of an online auction for your aunt.

Design Remarks

- Use the ABStack.java class to support the application.

Program Input

The program gets its input from a data file (bids.txt) with data organized as follows:

- Each line in the input file represents a new bid.
- Each line contains an integer (that represents a maximum bid) followed by the name of the bidder.

Here are the first few lines in a sample input file that represent the bid example given above:

```
7 John
5 Hank
10 Jill
8 Thad
15 Joey
```

Program Output

- As input proceeds, the current status of the auction must be displayed.
- The final output must include the bid history as described above.

– Here is a sample output for the sample input given above:

```
New Bid         Result              High Bidder   High Bid    Maximum Bid
-------------------------------------------------------------------------
7 John          New high bidder     John          1           7
5 Hank          High bid increased  John          5           7
10 Jill         New high bidder     Jill          8           10
8 Thad          No change           Jill          8           10
15 Joey         New high bidder     Joey          11          15

The bid history for this auction is:
Joey            11
Jill            8
John            5
John            1
```

Submission Instructions

When you are satisfied with your implementation, and after testing it thoroughly, submit the
TrackingOnlineAuction.java file via Blackboard Learn.