Classroom Exercise: 2

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Course: CS497/597

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Topic: Design

A leading e-Commerce company wants to create an online auctions market place, where buyers and sellers can interact about an ongoing auction. An auction starts when a seller registers (or lists) an item for sale and indicates the start and end time of the auction. An item has following attributes:

1. Item Number (allocated by the auction house at the time of registry)
2. Item Description (provided by the seller)
3. Item Catalog Description (provided by the seller)
4. Item image (provided by the user)
5. Item condition (new, slightly used, old, antique)

An auction has an associated seller and the following attributes:

1. Auction start Price (provided by the seller)
2. BuyItNowPrice (optional. If present it is provided by the seller)
3. Auction start date (A future date provided by the seller)
4. Auction duration (A positive duration specified in seconds. Always >300 seconds)
5. Minimum price increment between bids (A positive and non-zero number)

While the auction is in progress the system maintains:

1. Past bids of the auction (maintained by the system)
2. Highest bid for the auction (maintained by the system)

An auction finishes when the BuyItNow price is met or the auction has ended and has at-least one bid above the auction start price.

Each seller and buyer has a system allocated id and associated information about his or her name, email and physical address. Design a web service interface based on WS-callback that allows the buyers to obtain a list of ongoing or future auctions. Register and unregister for notifications on an ongoing or a future auction. Bid on an auction and receive notifications of subsequent bids and closure of auctions in which they are participating.

Describe your design and clearly mention your assumptions. Use JAVA interface and JAX-WS annotations to capture your design in for of JAVA class definitions.