Exercise 1 - PQL Queries

1- Reports descriptions of auctions made in the last 10 minutes by Luitpold Martucci.

join_auction_person = JOIN({predicate = 'auction.seller = person.id'}, auction, person)

join_window = TIMEWINDOW({SIZE = [10, 'minutes']}, join_auction_person)

select_luitpold_martucci = SELECT({PREDICATE = 'name == "Luitpold Martucci"'}, join_window)

projection = PROJECT({attributes = ['id', 'name', 'itemname', 'description']}, select_luitpold_martucci)

2- Find all items in the auctions stream that have an initial bid of more than 120 dollars.

select_items = SELECT({PREDICATE = 'initialbid >= 120'}, auction)

projection = PROJECT({attributes = ['itemname', 'initialbid']}, select_items)

3- Return the number of bids received for each auction.

bid_window = TIMEWINDOW({SIZE = [2,'minutes']}, bid)

auction_aggregate = AGGREGATE({group_by = ['auction'],
AGGREGATIONS = [['COUNT', 'bidder', 'num_bids']]}, bid_window)

4- Find auctions which had bids 2 minutes before their expiry date.

auction_map = MAP({EXPRESSIONS = [['timestamp', 'auctionTimestamp'], ['id', 'auctionID'],
['expires', 'auctionExpiry']]}, auction)

map_stream = MAP({EXPRESSIONS=[['auction', 'bidAuctionID'],
['timestamp', 'bidTimestamp'], ['datetime', 'bidTime']]}, bid)

join_bid_auction = JOIN({PREDICATE = 'auctionID = bidAuctionID'},
auction_map, map_stream)

bids_filter = SELECT({PREDICATE = 'auctionExpiry - bidTime <= 120000'}, join_bid_auction)

5- Return the number of bids received for each auction coming from each state.

join_bid_person = JOIN({predicate = 'id = bidder'}, bid, person)

bid_window = TIMEWINDOW({SIZE = [2, 'minutes']}, join_bid_person)

auction_aggregate = AGGREGATE({group_by = ['auction', 'state'],
AGGREGATIONS = [['COUNT', 'bidder', 'num_bids']]}, bid_window)