implement amazon product crawlers
1. please use following url to query amazon, replace ABC with query
from rawQuery3.txt
www.amazon.com/s/ref=nb_sb_noss?field-keywords=ABC
format of feeds file
query, bid, campaignID, queryGroupID
Prenatal DHA, 3.4, 8040,10

2. extract price, product detail url, product image url, category from web page return from url above

3. convert each product to Ads
Note that you need to convert product title to keywords by
a) convert to lowercase
b) tokenize title (split by space)
c) remove stop words (like, a, an, the...)
hint : use lib: org.apache.lucene.analysis

```
public class Ad implements Serializable{
	/**
	 *
	 */
	private static final long serialVersionUID = 1L;
	public int adId;
	public int campaignId;
	public List<String> keyWords;
	public double relevanceScore;
	public double pClick;
	public double bidPrice;
	public double rankScore;
	public double qualityScore;
	public double costPerClick;
	public int position;//1: top , 2: bottom
	public String title; // required
	public double price; // required
	public String thumbnail; // required
	public String description; // required
	public String brand; // required
	public String detail_url; // required
	public String query; //required
	public int query_group_id;
	public String category;
}
```

4. store Ads to file, each ads in JSON format.

hint: use lib jackson
for example:
{"category": "Electronics", "query": "home theater system", "description": null, "campaignId": 8060, "title": "GPX HT050B 5.1 Channel Home Theater Speaker System (Black)", "price": 49.29, "relevanceScore": 0.0, "brand": "GPX", "pClick": 0.0, "thumbnail": "https://images-na.ssl-images-amazon.com/images/I/41WL3G3OftL._AC_US160_.jpg", "costPerClick": 0.0, "bidPrice": 22.0, "query_group_id": 11, "position": 0, "keyWords": ["gpx", "ht050b", "5", "1", "channel", "home", "theater", "speaker", "system", "black"], "adId": 2005, "detail_url": "https://www.amazon.com/GPX-HT050B-Channel-Theater-Speaker/dp/B0084ZYH4I/ref=sr_1_7/163-8938683-7183664?ie=UTF8&qid=1487468566&sr=8-7&keywords=home+theater+system", "rankScore": 0.0, "qualityScore": 0.0}
Bonus points

5. support paging
hint:
you can get 2nd page product by
https://www.amazon.com/s/ref=nb_sb_ss_c_1_6?field-keywords=nikon+d3400&page=2
6. log all exception
grading point
1: 25 points
2: 25 points
3: 30 points
4: 20 points
5: 25 points
6: 25 points