**ISBN Conversion and Normalization in WeCat/MARCcat**

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1. **Conversion from 10-digit ISBN to a 13-digit ISBN and** **vice versa**: the algorithm realizes the conversion from 10 to 13 digits and vice versa. The conversion process works in the different scenarios:
	1. for a physical conversion, to create and save a 13-digit ISBN starting from a 10-digit one (and vice versa)
	2. to build a query using one 10-digit ISBN but extending it to its 13-digit equivalent one (and vice versa):
	3. For example, starting with the 13-digit **9788817101646,** it produces the equivalent 10-digit **8817101648** bothin the writing it on the database, and in the searching the data, extending the query. In the case of the query extension, the user will type a one format ISBN (i.e. BN – the ISBN index in MARCcat – **8817101648**, and the system will build the query **BN** **8817101648 OR BN 9788817101646**).
2. The algorithm used here to convert the ISBN, makes at the same time the ISBN validation, to ensure the formal correctness of it.
	1. **Hyphen Appender**: this algorithm calculates the correct position of hyphens starting from an integer ISBN: continuing with the same example **9788817101646**, the algorithm will calculate the correct groups that compose the ISBN, and will include the hyphens: **978-88-17-10164-6**. It can work both with a 13-digit and with a 10-digit ISBN. [**Note from A-M:** Data Import will **not** need the hyphen appender; we will always want to strip any hyphens]
	2. **ISBN normalization**: the system deletes the non-significant characters starting from a valid ISBN ($a) or invalid ($z) ISBN
		1. Example: **020 $a 88-210-0548-8 (v. 2)** will become:
			1. **88-210-0548-8** or
			2. **8821005488** or
			3. **9788821005480** or
			4. **978-88-210-0548-0**
	3. **Checksum control**: an algorithm to calculate or to verify the ISBN checksum (final digit or X of the ISBN)
3. Getting ISBN code from AtCult [discuss at AtCult-Folijet meeting]
	1. Since AtCult also gives these features to the end user in MARCcat, perhaps it is better that AtCult exposes a service that Data Import invokes
	2. Or if this is not convenient to you AtCult can send the java code.[A0M requested the Java code]