Ancient Aliens Numbering System

On a recent expedition, Giorgio Tsoukalos discovered an ancient alien crash site in the Sahara desert. Drawings of these aliens revealed that they had four fingers on each hand and three toes on each foot. Upon closer inspection of the site, he found a notebook with what appeared to be the numbering system used by the aliens. The digits used by the aliens were very close in appearance to our capital letters today and were in the same order. Coincidence? I think not! After further evaluation, Giorgio deciphered how the digits were strung together to make values based on these rules:

- "A" represents a one
- A digit cannot be repeated more than twice in a row
- Digits represent values that are added together and are always in descending order, with the exception of the rule below
- When an "A" is placed to the left of another digit, it represents "one minus that digit"
- The chart below demonstrates how values are formed and what their decimal equivalents are:

1	A		9	BBA		17	CBA		35	CCAC
2	AA		10	BBAA		18	CBAA		36	D
3	AB		11	BBAB		19	CBAB		107	DDAD
4	B		12	C		20	CBB		108	E
5	BA		13	CA		21	CBBA		323	EEAE
6	BAA		14	CAA		22	CBBAA		324	F
7	BAB		15	CAB		23	CBBAB		971	FFAF
8	BB		16	CB		24	CC		972	G

- The largest value that can be represented using this system is ZZAZ, which is equal to (12 x 3^24) - 1
- To decipher the value "DDCAB", consider the representation: D + D + C - A + B, or 36 + 36 + 12 - 1 + 4 = 87
- To decipher the value "EDDCBA", consider the representation: E+D+D+C+B+A, or 108 + 36 + 36 + 12 + 4 + 1 = 197

Your task, then, is to write a program in Python which will perform the following operations:

1. Given a decimal (base 10) value, convert it into the alien numbering system.
2. Given a properly formatted alien value, determine what the decimal value is.

Your program is required to have a main method which controls the program flow and determines which conversion is needed. The program is also required to have a minimum of two methods (defs) which receive as a parameter the value to be converted and returns to the main method the converted value. Additional helper methods may be incorporated.

You may use any IDE to write your program. The use of the PyCharm IDE is encouraged as it is similar to the IDE we will be using in class.

Good luck!