Error detection in the Marketplace

In many financial situations, identification numbers are used instead of names to indicate who owns the money. There is obviously a tremendous need to avoid mistakes when dealing with these accounts. Many different schemes are used to detect when an error has been made. In order to analyze these, consider the most common types of mistakes that would be made in using these codes: either a mistyped number (1234 gets typed 1534), or a transposition (1234 gets typed 1324). A good scheme should be able to pick up either of these errors. The following are two different examples that are actually used. What types of errors will not be detected under the following schemes? (Do the different types of errors separately).

Postal Service money order A money order from the Post Office is an 11 digit number. The first 10 digits are the identification number, and the 11th is a check digit. The check digit is the remainder modulo 9 of the sum of the first 10 digits. For example, 12345678911 would be a possible money order number, but 09876543215 would indicate that a mistake had been made.

I.D. numbers for checking accounts Many checking accounts have 9 digit numbers for identification: the first 8 are used for I.D., and the 9th is a check digit. If the identification number is $a_1 a_2 \ldots a_8$, then $a_9 = 7 \cdot a_1 + 3 \cdot a_3 + 9 \cdot a_3 + 7 \cdot a_4 + 3 \cdot a_5 + 9 \cdot a_6 + 7 \cdot a_7 + 3 \cdot a_8 (modulo 10)$. For example, 012345672 is a possible I.D. number, but 987654324 would indicate that a mistake had been made.